DEC 29 1943

Medical Library

The ILLINOIS Medical Journal

VOL. 84 NO. 6

December, 1943

To Our Friends

At Home and Overseas

The Journal Sends

Greetings and Good Wishes

(See page 27 for Table of Contents)

OFFICIAL JOURNAL OF THE ILLINOIS STATE MEDICAL SOCIETY

CIBA · MERCHANTS OF LIFE · MARCH ON

97 Per Cent of Wounded In U. S. Forces Recover
By Science Service.
WASHINGTON, May 19.—More than 97 per cent of navy and marine wounded have recovered. Incomplete data on the army show that there has been a like recovery of wounded soldiers.
Of all the navy and marine men wounded up to April 1 only 2.5 per cent died; 53 per cent returned to active duty.
This record is due to the best medical care and equipment ever supplied an army, declares the official OWI report issued here today.
A first-aid packet strapped to the soldier's belt is the first treatment available. If the wounded soldier is conscious he begins to take sulfa tablets as soon as he is hurt and dusts sulfa powder into the wound. If he is unconscious his comrades may
this first wound tre
Soon a ho
a larger
along and quickly ministers to the wounded man. An injection stops pain almost instantly. To his belt he ties a tag telling what tre
battalio
be comp
room of an
If severely
eventually reac
or base hospit
flown all the
United States.
Extensive rese
new army
equipment.
folding arm
been inv
tains ar
bite, v
aspirin
prev
was kill
"He
father
on a p
and h
listed.
war."
Mr.
Max,
—are
CIBA

Salute to Distinguished Service

• It is a tribute to the Medical Corps of the fighting forces and to American research that *more than 97 per cent of Navy and Marine wounded recover,* and that 53 per cent return to active duty. Present Army records show like recovery of wounded soldiers.

Such a record could not have been established without skilled medical care in the field —and without products of American pharmaceutical manufacturing laboratories . . . always searching for improvements in existing preparations, always seeking new and more effective medicaments.

As one of these manufacturing laboratories, Ciba salutes the Medical Corps of the American Armed Forces for brilliant use of vital therapeutic aids.

CIBA *Pharmaceutical Products, Inc.*

SUMMIT • NEW JERSEY

December, 1943
VOL. 84, NO. 6

The Illinois Medical Journal

Official Journal of the Illinois State Medical Society

EDITOR — Harold M. Camp. EDITORIAL BOARD — James H. Hutton, Chairman, Frederick H. Falls, Josiah J. Moore, Edwin M. Miller, Chauncey C. Maher, Harry S. Gradle, Harry Culver, Walter Stevenson, Raymond W. McNealy.

Editorials

TO OUR CONFRERES IN SERVICE

This December number of the Illinois Medical Journal is the last to be published during 1943. In the past year we have endeavored to give you the medical news from home and to schedule papers which would be of interest to all of you. Illinois has contributed freely to the number of physicians with the armed forces. At the present time it is believed that at least one-third of the total number of physicians in practice in January, 1942, are now in some branch of the service.

Your many confreres at home who are carrying on to the best of their ability, send their greetings to each of you in the zone where you are now serving. We know that many of you may not be where you would like to serve, but that is a matter not within our control, and those responsible for your present placement know the needs of our armed forces better than anyone else. Even though you may be a thousand or twelve thousand miles from home, those who are endeavoring to carry on during your absence, desire to express their best wishes to each and all of you during the Holiday Season.

We are all looking forward to the day when we can once more greet you and welcome you home. We will do everything possible to see that you get back into practice as soon as possible after your demobilization.

The Illinois Medical Journal is ever anxious to publish things you desire to see in print, and will welcome suggestions from you at any time. Likewise we will publish papers received from you on any subject you believe is of general interest and which will not violate the present censorship regulations. We also will appreciate your sending items of interest to those of us who remain at home, and we will endeavor to publish them regularly in this Journal.

All of you are participating in the greatest and most widespread war this world has ever known. From the many encouraging reports given in the form of statistics we know that each of you is doing his part in the excellent medical program given to our men in service.

So, to you in service, we send our best wishes and hope that in a relatively short time you will have finished your work and will return home where we can once more greet you individually and assure you of that type of welcome which you so justly deserve.

AMERICAN MEDICAL ASSOCIATION COUNCIL ON MEDICAL SERVICE AND PUBLIC RELATIONS

In the November 1943 issue of the Illinois Medical Journal, there was published a statement of general policies of the new A. M. A. Council. Elsewhere in this issue is published "The Purposes and Functioning of the Council

on Medical Service and Public Relations", this information being released late in November.

The organization of the Council is outlined in this interesting release, then the plans to carry its functions and operations to the state and county levels, it is desired that each State Medical Society name a new committee, or designate an existing committee to function with the Council at the state level. Likewise it is desired that all county medical societies also designate or form a committee in connection with this program.

State and county committees are urged to keep the Council fully informed of their local problems and activities. The Council proposes to keep the State groups thoroughly informed as to pending national legislation and bureau directives affecting the practice of medicine.

Activities of the Council will be submitted for publication in the Journal of the American Medical Association and the State Society Journals, and the Council will also prepare and release information on medical care.

This new Council was authorized by the A. M. A. House of Delegates at the last annual session in Chicago, and the organization was under way within a short time after the meeting. It is believed by those who were responsible for its organization, as well as members of the House of Delegates, that the Council on Medical Service and Public Relations of the A. M. A. will be of inestimable value to the Association, to state and county medical societies, and to the entire medical profession throughout the United States.

It is quite obvious that in order to aid the Council so that it may function to the best advantage, all state and county societies must cooperate by naming their respective committees at the earliest possible moment. Every county medical society in Illinois will be fully informed as to the work of the Council and urged to name or designate their respective committees before this article is published.

ILLINOIS STATE MEDICAL SOCIETY

GENERAL OFFICERS, 1943-1944

PRESIDENT ..... GEORGE W. POST, Chicago
PRESIDENT-ELECT .... EVERETT P. COLEMAN, Canton
1ST VICE-PRESIDENT .. ROBERT S. BERGHOFF, Chicago
2ND VICE-PRESIDENT ..... WADE HARKER, Chicago
SECRETARY-TREASURER .. HAROLD M. CAMP, Monmouth

THE COUNCIL

L. J. Hughes	1st District, Elgin	1944
E. C. Cook	*2nd District, Mendota*	*1944*
J. S. Nagel	3rd District, Chicago	1946
Percy E. Hopkins	3rd District, Chicago	1944
E. W. Mueller	*3rd District, Chicago*	*1945*
Chas. P. Blair	4th District, Monmouth	1946
Ralph P. Peairs	5th District, Normal	1946
Walter Stevenson	6th District, Quincy	1945
I. H. Neece	7th District, Decatur	1946
C. E. Wilkinson	*8th District, Danville*	*1946*
Andy Hall	9th District, Mt. Vernon	1945
G. C. Otrich	10th District, Belleville	1945
Ed. S. Hamilton	*11th District, Kankakee*	*1944*
Edward H. Weld	At Large, Rockford	1946
Chas. H. Phifer	At Large, Chicago	1945
J. S. Templeton	At Large, Pinckneyville	1944
Chairman of the Council	Percy E. Hopkins	

ILLINOIS MEDICAL JOURNAL

Harold M. Camp, Monmouth ..... Editor
L. E. Malley, Chicago .... Managing Editor & Business Mgr.

GENERAL COUNSEL

Edward W. Rawlins ..... 77 West Washington St., Chicago

LEGISLATIVE COMMITTEE

James H. Hutton, Chairman .... 30 N. Michigan Ave., Chicago

MEDICO-LEGAL COMMITTEE

J. R. Ballinger, Chairman ..... 509 W. Oakdale Ave., Chicago
T. B. Williamson, Secretary ..... Mt. Vernon

EDUCATION COMMITTEE

R. R. Ferguson, Chairman .. 4013 N. Milwaukee Ave., Chicago
Miss Jean McArthur, Secretary. 30 N. Michigan Ave., Chicago

PERMANENT COMMITTEE ON ARCHIVES

D. D. Monroe, Chairman ..... Alton
C. E. Black ..... *Jacksonville*
P. J. McDermott ..... Kewanee

SCIENTIFIC SERVICE COMMITTEE

Robert S. Bergoff, Chairman .. 30 N. Michigan Ave., Chicago
Harold M. Camp, Secretary ..... Monmouth

JOURNAL COMMITTEE

Percy E. Hopkins, Chairman ..... 800 W. 78th St., Chicago
Harry J. Stewart, Secretary ..... 715 Lake St., Oak Park

Outside of editorial or allied views or statements that are the authoritative actions of the Illinois State Medical Society, the organization denies responsibility for opinions and statements published in the ILLINOIS MEDICAL JOURNAL. *Views expressed by the various authors and views set forth in* various departments in the JOURNAL represent the views of the writers.

State Society will pay no bills for legal services except those contracted by the Committee. Notify the Chairman at once. Do not employ attorneys.

Send advertising copy, cuts and all communications relating to advertising to ILLINOIS MEDICAL JOURNAL, 30 N. Michigan Avenue, Chicago.

Original articles and membership correspondence to Dr. Harold M. Camp, Monmouth, Ill.

Society proceedings and news items and changes in the mailing list to Managing Editor, 30 N. Michigan Ave., Chicago 2, Illinois.

Subscription price of this JOURNAL to persons not members of the Illinois State Medical Society is $3.00 per year, in advance, postage prepaid, for the United States, Cuba, Porto Rico, Philippine Islands, Hawaiian Islands and Mexico. $4.00 per year for all foreign countries included in the postal union. Canada, $3.50. Single current copies, 50 cents.

NATIONAL PHYSICIANS' COMMITTEE FOR THE EXTENSION OF MEDICAL SERVICE

During recent months officers of the Illinois State Medical Society have received many letters from physicians asking for information concerning the National Physicians' Committee for the Extension of Medical Service, and invariably asking if the State Medical Society has given official approval to the organization and its work.

Replies have always been sent to all inquirers telling of the organization of the National Physicians' Committee four years ago with its Chairman a Past-President of the American Medical Association, and with a considerable number of its Board of Trustees and officers physicians who have occupied prominent places in the field of medicine and in the activities of the A. M. A. over a period of many years.

They were told that although no official approval had been given by the Illinois State Medical Society, we had been informed that more voluntary subscriptions had been made for a continuance of its work by Illinois physicians than by physicians in any other state. They were informed that the N. P. C. was a non-political, non-profit organization for maintaining ethical and scientific standards, and for extending medical service to all the people. The Committee was 100% favorable to the proposition that the classical physician-patient relationship must be maintained if the American people are to continue to receive the highest type of medical care received by any nation on this earth.

The activities of the National Physicians' Committee were approved by the House of Delegates of the American Medical Association at the 1942 annual meeting. This information likewise was given to all inquirers. At a recent meeting of the Council of the Illinois State Medical Society, the recent activities of the N. P. C. were outlined relative to its endeavor to combat (through a national educational campaign) the promotion of Federal subsidized programs for the providing of medical care to the people of the United States, as has been contemplated in the Wagner-Murray-Dingell Bill (S. B. No. 1161).

The Council unanimously passed a resolution to approve the present activities of the National Physicians' Committee. It was related that many million copies of their very timely brochures have been widely distributed throughout the country. Hundreds of newspapers, journals and magazines have received this material, and many have made some interesting editorial comments opposing the enactment of the type of legislation proposed in Senate Bill No. 1161.

The N. P. C. has depended entirely on voluntary subscriptions to carry on its work. It has recently released a financial statement showing the contributions received for the year ending October 31, 1943, and the expenditures over the same period of time. Copies of the literature which has been widely distributed throughout the country, have been mailed to every registered physician in the United States. We are informed that as many additional copies of these releases may be procured free as are desired.

To procure this material or to secure any other information which may be desired, address the National Physicians' Committee for Extension of Medical Service, Pittsfield Building, Chicago, 2, Illinois.

THE 1944 ANNUAL MEETING

The Illinois State Medical Society plans to hold the 1944 annual meeting at the Palmer House, Chicago, where interesting and well attended meetings were held in 1941 and 1943. At a recent meeting of the Committee on Scientific Work plans for the scientific programs to be scheduled were carefully considered. Again it is the concensus of opinion that more joint sessions with all scientific sections participating, will be scheduled, and that less time should be devoted to the programs of the individual sections.

With a war in progress and with thousands of Illinois physicians in the services of their country, special efforts will be made to extend invitations to the men in service who can be present, to come and participate in the deliberations.

It is the desire of those responsible for the arrangements to schedule papers which will be of general interest rather than highly technical subjects of interest to a small percentage of the members of the State Medical Society.

As has been the case at previous meetings, all sessions will be held in the Palmer House, as will the display of both technical and scientific exhibits.

Physicians desiring to present papers before joint sessions or before individual meetings of the scientific sections, should communicate at the earliest possible moment with the proper section officers whose names and addresses will be found in this issue of the Illinois Medical Journal.

Dr. Harry M. Hedge, 30 N. Michigan Avenue, Chicago, 2, has been selected to act as General Chairman of the Committee on Arrangements and he is most anxious to do everything possible to aid in making the 1944 annual meeting a highly successful affair. His committees will be announced at an early date and will be published in the January issue of the Journal.

Even though physicians throughout this state (as throughout this nation) are working longer hours and seeing more patients as a result of war and a decreased number of physicians remaining in civilian practice, they should arrange to take time off and come to their State Society Annual Meeting which will be held in Chicago on May 16, 17, 18, 1944.

During the next few months until the meeting is held, important announcements will be carried in the Illinois Medical Journal each month. The official program for the meeting will be published in the May issue.

Any member of the State Medical Society desiring to present a paper should write to the proper section officer telling the title of the paper, and giving a short synopsis of the material he has in mind for the paper. In this way the officers of the sections will be better enabled to tell whether or not they are willing to schedule the paper for the program for which they are responsible.

In accordance with the usual custom in this Society there will be no registration fee, and all members of the State Medical Society or medical officers in uniform will be permitted to register and participate in the deliberations throughout the meetings.

SECTION OFFICERS

Section on Medicine
George B. Stericker, Chairman, Springfield
Laurence E. Hines, Secretary, 104 S. Michigan Blvd., Chicago

Section on Surgery
Joseph S. Lundholm, Chairman, Rockford
G. E. Johnson, Secretary, 1000 W. 59th Street, Chicago

Section on Eye, Ear, Nose and Throat
George Woodruff, Chairman, Joliet
Sanford N. Gifford, Secretary, 720 N. Michigan Ave., Chicago

Section on Public Health and Hygiene
R. R. Cross, Chairman, Springfield
E. A. Piszczek, Secretary, 737 S. Wolcott Avenue, Chicago

Section on Radiology
Fay H. Squire, Chairman, 1753 W. Congress St., Chicago
P. R. Dirkse, Secretary, Peoria

Section on Obstetrics and Gynecology
C. J. Heiberger, Chairman, Peoria
J. P. Greenhill, Secretary, 55 E. Washington St., Chicago

Section on Pediatrics
Robert Cummings, Chairman, 400 E. 79th Street, Chicago
John Carey, Secretary, Joliet.

THE PURPOSES AND FUNCTIONING OF THE COUNCIL ON MEDICAL SERVICE AND PUBLIC RELATIONS OF THE AMERICAN MEDICAL ASSOCIATION

The Council was authorized by the House of Delegates of the American Medical Association at its annual session in Chicago in June, 1943. The members of the Council were immediately appointed by the Board of Trustees. Section 4 of Chapter IX of the By-Laws provides that the duties of the Council shall be as follows:

"(1) To make available facts, data and medical opinions with respect to timely and adequate rendition of medical care to the American people;

"(2) to inform the constituent associations and component societies of proposed changes affecting medical care in the nation;

"(3) to inform constituent associations and component societies regarding the activities of the Council;

"(4) to investigate matters pertaining to the economic, social, and similar aspects of medical care for all the people;

"(5) to study and suggest means for the distribution of medical services to the public consistent with the principles adopted by the House of Delegates, and

"(6) to develop and assist committees on medical service and public relations originating within the constituent associations and component societies of the American Medical Association.

"In the exercise of its functions, this Council, with the cooperation of the Board of Trustees, shall utilize the functions and personnel of the Bureau of Legal Medicine and Legislation, the Bureau of Medical Economics and the Department of Public Relations in the Headquarters Office."

The Council is also bound by the actions of the House of Delegates on the subject of medical care and its distribution, notably the platform adopted in 1937 as amended and amplified in subsequent years by the various resolutions and reference committee reports adopted by the House of Delegates.

In order to carry out these functions, the Council has organized as follows:

Organization

Officers. — The Council shall elect annually:

A chairman.

A vice-chairman.

A full-time secretary.

An executive committee of three shall be created, which shall include the Chairman, the Council member of the Board of Trustees, and a third member to be chosen annually from the duly appointed or elected members of the Council on Medical Service and Public Relations. This committee shall exercise such functions as are delegated to it by the Council.

The central office of the Council is to be located in the office building of the American Medical Association in Chicago, Illinois.

The functions of the Council outlined in the By-Laws are closely integrated and cannot well be considered separately. To carry them out it is obvious that the Council must have adequate sources of information, maintain close contact with constituent associations and component societies, and establish close relationship with the already existing Bureaus and Departments of the Association.

The Council, therefore, subject to the approval of the Board of Trustees, has decided on the following method of operation:

1. In carrying out the directive in the By-Laws as to relationship with the other Bureaus and Departments of the Association, the Council has established close collaboration (a) with the Bureau of Medical Economics, which has been asked and has expressed the willingness to do the research on many of the economic problems necessary for the Council's study, and which is well equipped to carry out such research; (b) with the Bureau of Legal Medicine and Legislation. Joint bulletins will be issued with that Bureau on legislative matters. Attempt will be made to effect wider distribution and, if necessary, more frequent publication of such bulletins; (c) with the Department of Public Relations. The Council shall utilize the sources of information of this department and joint bulletins may be issued from time to time with it, and if indicated with other bureaus of the American Medical Association. All planning will be to avoid overlapping of functions and duplication of effort.

2. The Council on Medical Service and Public Relations has extended the sources of information of the American Medical Association on problems with which the Council is specifically concerned. Through its membership and by cooperation with constituent associations and component societies and the utilization of other facilities, the Council will disseminate such information toward effecting its objectives. The Secretary of the Council, with its approval, will undertake such travel as may be necessary.

3. In order that constituent associations and component societies may be kept informed of the activities of the Council, and of proposed changes in the status of medical care, and that the Council may be of assistance to those associations and societies, the Council has requested each State Association to designate an existing committee or create a new committee to function with the Council on a State level.

Each State organization has also been requested to contact each component society in the State and ask it similarly to designate or form a committee to function in connection with the programs of the Council. Where such organization is feasible, it has been suggested that committees be created along the lines of congressional districts.

Such State and county committees have been urged to keep the Council informed of their local problems and activities.

State organizations also will be requested from time to time to conduct experiments in the various methods of medical care and to inform the Council of their results so that the Council may study and evaluate the experiments and transmit the information acquired to all concerned.

4. The Council feels that under its directive it is its duty to endeavor to evolve such modifications of our present system of medical care as may be necessary to cover all the people and be in accord with the traditions of American Medicine as to high standards of medical care and the American tradition of free enterprise as already outlined in paragraph 1 of the Council's Policies previously published. To accomplish this, study must be made of all economic, social, and similar aspects of such care.

5. In order that the above program may be effectively carried out, the Secretary of the Council, with the guidance of the Council in conformity with the above expressed relationships with other Bureaus and Departments, shall inform the profession through the various State organizations of all pending national legislation and bureau directives affecting the practice of medicine. It shall likewise be his duty with the guidance of the Council, to arrange for medical representation at meetings and hearings pertaining to medical care, collaborating in the representation with other Councils and Bureaus of the American Medical Association who have an interest in this same subject.

6. The Secretary is instructed with the supervision of the Council, and in collaboration with the Department of Public Relations, to disseminate information concerning the activities of the Council through the publications of the American Medical Association and the various state medical journals, and to prepare and release information on medical care.

The Council has already issued its Statement of General Policies, and it will act in accordance with those Policies and the above method of functioning.

One thing the depression taught us, that human lives cannot be departmentalized — ignorance, poverty and ill health are not isolated problems; too often they have proved themselves a vicious circle of cause and effect. Paul V. McNutt.

CHICAGO OFFERS OPPORTUNITIES FOR POST-GRADUATE STUDY

The Post-Graduate and Scientific Service Committees of the Illinois State Medical Society are pleased to present the following information on opportunities available to doctors who may be in Chicago for a few hours or for several days. This is in addition to the information given in the November Journal.

University of Chicago School of Medicine, Public Conferences and Seminars.

Monday

4:30 P.M. Surgical Clinical Conference—Room P-117
7:00 P.M. Fracture Conference — Room M-137
8:00 P.M. Biology Club — Room P-117 (Second Monday of Month)

Tuesday

7:00 P.M. Seminar in War Psychiatry — Room M-137

Wednesday

3:15 P.M. Pediatrics - Roentgenology Conference — Room BR-259
4:30 P.M. Medical Conference — Room P-117
4:30 P.M. Obstetrics and Gynecology Clinical Conference — Dora DeLee Hall
6:45 P.M. Roentgenology Seminar — Room P-117

Thursday

8:00 A.M. Surgical Seminar — Room P-117
4:00 P.M. Bacteriology Club — Ricketts North Room 7 (Third Thursday of month)

Friday

4:30 P.M. Clinical Pathology Conference — Room P-119

Tuberculosis has been present for so long and people are so accustomed to it, that the interest of the public and of many public health workers is in danger of being sidetracked to more glamorous and exciting problems. This is a serious deterrent to accomplishment in this field. Further, the decline in tuberculosis, both in morbidity and mortality, in the last 40 years, may lead some to think that the problem is one of the past. Let there be no mistake in this direction. Tuberculosis continues to be a real problem. If, instead of comparing the tuberculosis rate of today with what it was 50 years ago, one will compare the tuberculosis prevalence and mortality of other diseases, today's prevalence and mortality of other diseases, the present seriousness of the tuberculosis problem can be appreciated. In the most productive period of life, tuberculosis continues to cause more deaths than any other one disease. Ed., Amer. Jour. Public Health, July, 1943.

Correspondence

ILLINOIS PUBLIC AID COMMISSION
OFFICIAL BULLETIN NO. 50

To: Official Communications List
Local Authorities

Re: PAYMENT OF MEDICAL AND HOSPITAL COSTS BY TOWNSHIPS AND COMMISSION COUNTIES

Responsibility for "Non-paupers." Townships and commission counties are required by law (Par. 25, Ch. 107, Ill. Rev. Stat. 1941) to provide and pay for the necessary medical and hospital expenses of persons who, although not receiving relief, do not have sufficient money or property to pay for such care. Rule 4 of Section II of the Rules and Regulations of the Illinois Public Aid Commission specifies the method to be followed in determining whether a person does or does not have "sufficient money and property." Persons requiring this type of care who do not have money or property to pay for it have been designated "non-paupers," a term employed for convenience.

Responsibility for Paupers. This responsibility for meeting costs of medical or hospital care for non-paupers is in addition to the duty of townships and commission counties to provide such care for cases receiving relief.

Responsibility for Old Age Pension Recipients. Recipients of Old Age Pension grants are deemed to be "non-paupers," and townships and commission counties are required to provide and pay for medical or hospital care which these recipients cannot provide for themselves out of their grants or which they or their legally responsible relatives cannot pay for out of other income, assets, or resources which may be available to them. In the case of any recipient of Old Age Pension who needs medical or hospital care, the township or commission county shall, before authorizing the provision of medical or hospital care, determine if the current grant of the recipient can be increased. If the recipient is not receiving the maximum of $40.00, the Commission will authorize that the grant be increased to the maximum if the physician or institution providing the service meets requirements which the Commission may have established, and if such increase be necessary.

Reimbursement of Units Receiving State Relief Funds. Townships or commission counties which are receiving state funds may include all proper expenditures which they make in conformity with rules of the Commission for medical and hospital care of "non-paupers," including Old Age Pension Recipients, in the Estimates of Relief Requirements, Forms AR-87, which are submitted each month and state relief funds will be allocated accordingly. By this method units receiving state relief funds will be reimbursed for all expenditures *including expenses of the last illness of Old Age Pension recipients.*

Last Illness: Reimbursement of Units Not Receiving State Relief Funds. Townships and commission counties not receiving allocations of state relief funds are required by law to meet the medical and hospital expenses of "non-paupers," including Old Age Pension recipients.

By virtue of authority granted to the Commission in recent legislation, the Commission will make expenditures to reimburse townships and commission counties for expenditures made by such units for medical and hospital expenses

of the *last illness* of Old Age Pension recipients. (H. B. 656, amending Sec. 3 of the Old Age Pension Act, and H. B. 819).

"Last Illness" has been defined by the Commission for this purpose as the period of illness, not exceeding 60 days, immediately preceding and causing or contributing to the cause of the death of an Old Age Pension recipient.

Townships and commission counties, after having paid such costs as may be considered to have been incurred on account of the last illness of an Old Age Pension recipient, may obtain reimbursement from the Commission by completing and submitting Form AR-84 which will be supplied in the near future. Reimbursement will not be made for medical or hospital services or supplies rendered prior to July 15, 1943.

It should be emphasized that under this policy units receiving state funds will pay all medical and hospital costs of Old Age Pensioners beyond the cost which the pensioner himself can meet and will be reimbursed through usual allocations for all expense including the expense of the last illness. Units not receiving state funds will likewise meet all costs and will be reimbursed by the Commission for that portion of the cost which is chargeable to the last illness of the recipient.

Detailed instructions concerning procedure will be furnished in a forthcoming bulletin. This bulletin has no application to the City of Chicago or the Incorporated Town of Cicero.

RAYMOND M. HILLIARD
Public Aid Director

STATE VACANCIES TO BE FILLED

Vacancies in the Illinois State Department of Public Health will be filled from the eligible registers resulting from Civil Service examinations now on call for Bacteriologist, Laboratory Technicians and Serologists. January 14, 1944 is the last day for the receipt of applications in the Illinois Civil Service office, Room 501, Armory, Springfield.

Salary ranges for these positions are — Bacteriologist I, $150-$190 per month; Bacteriologist II, $180-$225 per month; Bacteriologist III, $180-$225 per month; Bacteriologist IV, $300-$375 per month; Laboratory Helper, $100-$125 per month; Laboratory Technician I, $110-$140 per month; Laboratory Technician II, $130-$170 per month; Serologist I, $150-$190 per month; Serologist II, $180-$225 per month. Applicants must be legal residents of Illinois.

Persons now accepting employment in the Illinois State Service have the advantage of a "career service" system, whereby persons with the minimum of training and experience can enter the beginning positions and through service ratings and promotional examinations can advance to top positions in the field. An additional inducement to attract qualified employees is the newly enacted pension plan offering retirement and disability benefits to all State employees.

The examination will be given at various centers throughout the State immediately after the closing date, January 14, 1944.

Application blanks position descriptions and qualifications required can be obtained by writing to the Illinois State Civil Service Commission, Room 501, Armory, Springfield.

1944 ANNUAL SESSION OF THE A. M. A. TO BE HELD IN CHICAGO JUNE 12-16

The annual session of the American Medical Association in 1944, which had been scheduled to be held in St. Louis, has been changed by the Board of Trustees of the Association so that it will now be held in Chicago June 12 to 16. The change, according to the announcement, was necessary because of information received that it would not be possible for St. Louis to provide adequate hotel accommodations.

The meetings of the House of Delegates of the Association will be held at the Palmer House and the Scientific Exhibit will be installed in that hotel. The Technical Exhibit will be housed at the Stevens Hotel.

Application blanks for space in the Scientific Exhibit are now available and may be obtained by communicating with the Director, Scientific Exhibit, American Medical Association, 535 N. Dearborn Street, Chicago 10, Illinois.

The fundamentals of tuberculosis control are changed by neither war nor peace. They always are: Find the sick — treat the patient — restore his earning power — prevent the spread of the disease — keep the family together.

Kendall Emerson, M.D.

Medical Economics

Edited by R. K. Packard, M.D., Chairman of the Committee on Medical Economics of the Illinois State Medical Society, 826 East 61st Street, Chicago, Illinois.

During the past three months it has been the writer's privilege to address five meetings on the subject of the Wagner-Murray-Dingell Bill. These groups were composed of Hospital Trustees, Superintendents, Hospital Staffs, Members of the Woman's Auxiliary, and some members of the lay public. Aside from these five meetings, I have had three rather informal discussions with members of Boards of which I am a member. Several questions have been asked. In four of the five official meetings this question was asked: "What has the American Medical Association to offer in place of the Wagner-Murray-Dingell Bill?" In three of the meetings this question was asked: "What is the American Medical Association doing to defeat the Bill?" In two of the meetings this question was asked: "Why did the American Medical Association oppose group hospitalization?" In one of the meetings this question was asked: "If the American Medical Association opposed group hospitalization and pre-payment medical plans and only yielded to them when public pressure was great — what right has the public to look to the American Medical Association for leadership in the distribution of medical care?" In one of the meetings this question was asked: "Why haven't the state and local societies approved the work of the National Physicians Committee when they have been active in opposing socialized medicine and are now active in opposing the Wagner-Murray-Dingell Bill:" Another question — "If the Wagner-Murray-Dingell Bill is defeated what changes would you personally like to see in medical practice?" Another — "What is the American Medical Association doing to correct the shortage of doctors in rural communities?" Another — "Group Hospitalization has not solved the problem of the low income group. What solution do you have for this problem?" Another — "Is it true that some of the high officials of the American Medical Association are in favor of the Wagner-Murray-Dingell Bill or some modification of it giving the government more control of medical practice?"

These are but some of the more important questions that one must be prepared to answer when he or she assumes the task of discussing the Wagner-Murray-Dingell Bill before professional or lay groups.

In answering question one: The American Medical Association has approved group hospitalization, pre-payment medical plans, cash indemnities for medical, surgical and obstetrical care, etc. For many years the American Medical Association devoted its time largely to medical education, research, standards of hospitals, post graduate education and specialty training. That the American Medical Association has performed exceedingly well in this no one denies — not even Paul De Kruif, Wagner, Murray or Dingell. The American Medical Association believes that the basis of good medical care must first, last and always be well trained doctors. No community can be safe in the hands of a poorly trained medical man, and no community can be safe in the hands of a doctor who does not possess a high standard of medical ethics. The American Medical Association has worked to that end, rather than to an extensive study of the distribution of medical care. That some failed to see that the rapid change in industrial progress and the rapid developments in medicine were creating new problems in medical care can hardly

be denied. The question can be asked; Was this a problem that the American Medical Association should have attacked or was it a problem for management? The early discussions were largely based on statements that the cost of medical care was too high.

For those whose income was insufficient to pay for medical and hospital care the medical men of America gave generously and willingly of their time to breach that gap and hospitals did all within their financial capacity to meet the problem. Management has never set a standard for a decent living wage. Henry Ford was the first to set a minimum and management as a whole did not take kindly to this evolutionary and revolutionary change.

The writer has often stated, and here reaffirms, that if the capitalistic system is to prevail management must give as much consideration to the total welfare of their employees as they do to both cash and stock dividends. The writer does not believe that the American Medical Association has a substitute for the Wagner-Murray-Dingell Bill. The chief function of the American Medical Association must remain one of sound medical education, post graduate, specialty training and research work. They should encourage group hospitalization, pre-payment medical plans under state and county medical societies and cash indemnities for surgical and obstetrical care. The American people believe in the principle of insurance against the hazards of health, death, fire, accidents, burglary, etc. There is no valid reason why we should oppose one and not the others. We do cling to the principle that they should be the result of free enterprise and cooperation, subject to the factors of competition to prevent excessive costs and free from the spoils of politics.

Question II: The American Medical Association is doing all within its power to defeat the bill. The American Medical Association is chartered as an educational and research institution, and it cannot use its funds in a campaign to influence public opinion in legislative matters. Its officers and special committees can and do appear before committees in Washington to present their views and reasons for sponsoring or opposing legislation.

Question III: Why did the American Medical Association and the profession as a whole oppose group hospitalization? The writer having been quite active in sponsoring group hospitalization for many years finds great difficulty in answering the question. However, it is a fact, and the public is aware of it as well as the profession. The only argument that was ever advanced, to the writer, was that it would lead to state medicine. Many physicians who personally believed in it would not endorse it until the American Medical Association had approved it. It remains a fact that we all now point with pride to the fact that fifteen million people have answered their hospital problem through group hospitalization. My only answer is that it was an honest lack of knowledge of a changing social economic order and conditions and a lack of vision as to the ultimate effect of these changing conditions.

Question IV: Wise men change their minds. The American Medical Association now approves group hospitalization, pre-payment plans, cash indemnities, etc., and are studying phases of cooperative planning for distribution of medical care. Leadership changes with the times, and a clearer understanding of the total factors.

Question V: The council of the Illinois State Medical Society at its last meeting approved the present activities of the National Physicians Committee.

Question VI: Personally I do not think there is any need for drastic changes. I would like to see the following:

1. Active support of group hospitalization by the profession and by industry, to the point that a major portion of the population is covered.
2. Cash indemnities for surgical cases for groups in certain income levels.
3. A more equitable charge for specialists services in certain income groups. Those who refuse to even see a case in consultation for less than $50.00 are not serving either the public or the profession well.

Question VII: The shortage of doctors in rural communities is largely a problem of the war. The American Medical Association has used whatever influence it had to move doctors, who because of disabilities, were not acceptable in the armed forces to rural communities and to

industry. The refugee doctors in this country have not, according to my information, cooperated in going to rural communities. They have elected to remain in the large cities.

Question VIII: Group hospitalization has not solved the problem of the low income group. This is a fact in most communities. How can it be solved? I think by industry. I think industry could pay half or all the fees for group hospitalization for those under a certain income level. In fact it would be a good investment. Government will force it if management does nothing about it.

Question IX: Washington is the center of the New Deal, the changing world, of a huge bureaucracy, of people fighting for positions socially, economically, politically, professionally and militarily. Those who frequent Washington are most inclined to ride in the boat. There are outstanding exceptions. We must admit that some doctors favor the Wagner-Murray-Dingell Bill. I do not believe that any official of the American Medical Association does. I do think that some have a feeling that something is going to happen in spite of what we do, and that we should help to formulate the plan and that some feel we really need a change to meet changing conditions, but that those changes should be guided by the profession in cooperation with the governing bodies. We can only judge by their official expressions.

R. K. Packard, M.D., Chairman
Committee on Medical Economics

STUDY SHOWS BRIGHTER OUTLOOK FOR VICTIMS OF ANGINA PECTORIS

Three Doctors Find Life Expectancy After Disease First Appears is About Twice as Long as Has Been Commonly Believed

The life expectancy after angina pectoris (breast pang) first appears is about twice as long as has been commonly believed, Paul D. White, M.D.; Edward F. Bland, M.D., East Liverpool, Ohio, report in *The Journal of the American Medical Association* for November 27. This statement is based on what is, so far as they know, the first study of this condition that involved a large series of cases followed over an adequate length of time.

The three physicians made a follow-up study in 1943 of 497 cases of angina pectoris that were first observed in the years from 1920 to 1930. Of the 497 patients, they say, "445 are dead and 52 are still living. The average duration to death of the 445 was 7.9 years, while the average duration from onset of the disease in the living is 18.4 years. The average duration to date for the combined dead and living is 9.0 years, which will ultimately increase when all the present survivors succumb, doubtless to a figure approximating ten years, a duration of life about double that at present widely regarded as the expectation of life after angina pectoris first appears (five years or less). Seventy-six per cent of the deaths were due to cardiac (heart) causes. . . . A pronounced degree of nervous sensibility was a favorable influence (in survival). Angina pectoris decubitus (an attack coming on while at rest in contrast with one during or immediately following effort) was found in 103 (20.6 per cent) of the 497 cases. There were no significant differences in the average duration of the disease to death or in the living between this group and that of the group as a whole. . . ."

The three men point out that it is not only helpful for the doctor to know something of the average life expectation in general in angina pectoris but also "for the patient himself and for his family, rather than to leave merely the impression that prediction is impossible and that the Sword of Damocles may fall at any moment. Such a state of affairs is for many persons so paralyzing that they are prone to sit for many years awaiting the end, unable to carry on a useful or happy life, or else, hardened by the thought, they may lead a reckless existence which can in truth hasten their end.

Since November 1, 1942, no resident of Winnipeg, Manitoba, has had to pay for tuberculosis treatment. In adopting this policy the City Council was influenced by the desirability of segregating all potential sources of infection, the fact that the cost of treating tuberculosis is ruinous to the average family and that financial pressure frequently interferes with the patients' chances of recovery. Another factor was the difficulty experienced in securing payment of hospital bills. Bulletin, Canadian Tuberculosis Association, March, 1943.

Medicine's Role in the War Effort

EARLY RECOGNITION AND TREATMENT OF NEUROPSYCHIATRIC CONDITIONS IN THE COMBAT ZONE

The War Department, Washington, D. C., recently released Circular Letter No. 176, regarding the early recognition and treatment of neuropsychiatric conditions in the combat zone, which is as follows:

1. *General.*—Any medical officer may be called on to treat neuropsychiatric casualties. Because of the shortage or neuro-psychiatrists, the burden of early recognition and treatment of these casualties will fall on medical officers without specialized training. The attention of all medical officers, therefore, is invited to their responsibility for the mental as well as physical health of military personnel.

2. *Incidence.*—According to present figures, from 10 to 20 per cent of casualties developing in combat are neuropsychiatric and, in certain engagements, as high as 30 per cent are of this type. It has been found that when these cases are properly recognized and treated at forward areas, up to 80 per cent can be returned sucessfully to combat duty; whereas, when improperly evaluated and unnecessarily evacuated to rear areas, only from 5 to 10 per cent can be returned to duty.

3. *Etiology*—a. Ordinary neuropsychiatric disorders are thought to occur only in weaklings or in individuals with personality defects. This is not true. Information at hand indicates that a significant proportion of the neuropsychiatric casualties are occuring in individuals who give no history suggesting predisposition. Under the extremes of stress and fatigue of modern combat, the most stable individual may reach his breaking point. Thus, the presence of neuropsychiatric disorder must be looked for in normal as well as predisposed individuals.

b. Factors which Precipitate psychiatric disorders are separation from home, regimentation, lack of freedom, lack of privacy, lack of feminine companionship, a feeling of not being appreciated and lack of confidence in leaders. In combat are added extreme fatigue, danger of death and mutilation, exposure to cold, heat, disease, isolation, confusion and hunger. The danger of being a coward, of losing self control, as well as responsibility for the lives of others, also plays a role. Insufficient understanding and conviction regarding the need to fight are also factors.

4. Clinical Types and Diagnosis.—a. Considerable confusion exists as the result of current use of diagnostic terms, such as "operational fatigue," "shell shock" and "war neurosis." There is no evidence that any new clinical entity has appeared in this war which would warrant the employment of these terms. It is directed that standard nomenclature for psychiatric disorders be utilized wherever possible.

b. In certain theaters it has been found that the term "psychoneurosis" produced in the patient's mind the idea of war causation and incurability and thus materially interfered with recovery. The term "exhaustion," on the other hand, implied to the patient nonspecific etiology, natural occurrence and speedy recovery. It was also in a measure true in that in the majority of cases this exhaustion was a strong contributory factor. If it is found expedient to use the term "exhaustion" as a preliminary diagnosis for combat neuropsychiatric casualities, the term should be employed only on the emergency medical tag (M. D. Form 52 b) and the case rediagnosed with the proper psychiatric term on the field medical record (M. D. Form 52 c). The use of the term "exhaustion" for psychoneurosis will be confined to cases developing under enemy action. Cases of exhaustion free from pschiatric components and essentially "physical" in nature will be qualified with an appropriate term in addition to the word "exhaustion" for purposes of differentiation.

c. Psychiatric casualties fall into the following main groups and should be so labeled:

(1) Psychoneuroses: These comprise the vast majority of neuropsychiatric casualties in the combat zone. They occur either in a normal or an emotional unstable individual. Underlying domestic difficulties frequently play a role. The types of psychoneuroses encountered are as follows:

(a) Anxiety. The anxiety type is the most common. The anxiety symtoms show pronounced variations in severity, but certain symptoms are common to all of

them. The most striking of these manifestations is the inappropriate reaction to any sudden sound, sudden movement or the sound of motors of any description. When these stimuli occur, the patient immediately concentrates all attention on the sound or, in more severe cases, may immediately run or seek cover of some sort and exhibit all the symptoms of a minor panic state. This reaction cannot be said to be abnormal qualitatively, since it is the normal reaction, to a lesser degree, of all men who have experienced combat conditions, but the quantitative response is clearly exaggerated. With this abnormal response there is usually a variable degree of mental confusion, tachycardia, tremors and, if severe, vasomotor reactions of the sympathetic type are evident. In addition, they manifest all of the anxiety reactions evident in civil life; namely, night terrors, insomnia, irritability, inability to concentrate, tremor and somatic symptoms of the visceral type.

(b) Hysteria. The hysterical reactions of paralysis, anesthesia, deafness, blindness and aphonia, so common in the last war, are notable for their rarity. Of the hysterical reactions seen, the rhythmic reflex tremors, repetitive dodging and avoiding movement, amnesias and stupor reactions are by far the most common. These manifestations are extremely dramatic in character and in general show a very poor response to therapy in that, when they are resolved, anxiety or other hysterical manifestations replace them or they recur under very minor stress. Some of these cases are distinguished from true psychotic reactions with great difficulty. They may show clear-cut hallucinatory reactions, thought block, retardation, decidedly childish behavior and little insight.

(c) Psychasthenia, neurasthenia and reactive depression are seldom seen and when seen do not respond rapidly.

(2) Psychoses: Psychoses rarely occur in normal individuals but may be precipitated in unstable individuals by stress of battle. The clinical pictures do not differ from those seen in the zone of interior. When the manifestations are bizarre and dramatic, or when hallucinations and delusions are present, detection is not difficult. Psychoses may also be manifested merely by overtalkativeness, overactivity, distractability, depression, apathy, indifference, carelessness in the care of clothes and eating habits or by undue suspiciousness or complexes on particular subjects, such as the government or religion. Psychoses also occur which appear to be full blown cases of schizophrenia but differ from the true disease by clearing up in a matter of days or weeks.

(3) Psychopathic Personality: Psychopathic personalities with homosexuality, emotional instability or a social and a moral trends are, of course, revealed but not caused by the stress of battle. Individuals with these personality defects are more likely to become psychiatric casualties than are "normal" individuals.

(4) Mental Deficiency: Limited intelligence also is revealed rather than caused by combat and may be mistaken for hysterical confusion or stupor.

(5) Organic Neurologic Disease: Concussion Due to Blast. An individual may be within a few feet of a bursting shell and suffer no organic damage, whereas another individual many yards from the same burst may be killed outright by the concussion. The individual who has suffered organic damage from blast almost invariably gives a history of clear loss of consciousness, having his breath knocked out, coughing up bloody sputum or bleeding from the ears and nose. On examination he may show fissuring of the skin, flash burn, perforated or hemorrhagic eardrums, conjunctival hemmorrhage, signs of intrathoracic or intra-adominal pathologic changes, focal or general signs of organic damage of the central nervous system.

5. *Malingering.* — A common error is to mistake psychoneurosis for malingering. It is difficult for many to accept the fact that malingering and psychoneurosis are distinct clinical entities. Treatment effective for one is utterly useless and even harmful for the other. Malingering is the conscious, deliberate exaggeration or pretense of an illness for the purpose of escaping duty. Psychoneurosis is an actual illness. By definition, a malingerer lies about his symptoms. A person with psychoneurosis either tells the truth or what he firmly believes is the truth. It may be true that neither wants to return to duty, but the malingerer is aware that he could go back if he chose, whereas a person with psychoneurosis either is actually unable to return to duty or sincerely believes so.

6. *Disposition.* — *a.* It is highly important to avoid indiscriminate evacuation. If a case can be treated adequately in forward areas, the prognosis is, as a rule, far better. On the other hand, delay in evacuating cases for which specialized treatment in a base area is necessary may prove disastrous to the patient and harmful to the efficiency and morale of the unit.

b. The criterion for selection of cases is the length of time which will be necessary to return a given case to effective duty. In general, the evacuation policy is to retain at the level of the evacuation hospital only those who require five days' treatment or less. All other cases must be treated in hospitals further removed from the front. In a general way, the accompanying table, based on actual field experience, may serve as a guide.

7. *Treatment.* — *a.* Treatment of neuropsychiatric cases developing in the combat zone is based on four cardinal principles:

(1) Early selection of cases which with treatment may be returned promptly to duty.

(2) Treatment of these cases in the combat zone.

(3) The rapid initiation of sedation in all cases.

(4) Recognition that psychiatric casualties are not malingerers needing punishment but sick men needing treatment.

b. Treatment in the Division Area: Battalion or regimental medical officers can return many mild cases to duty in a few hours by means of discussion, reassurances and short rest periods in the unit rest

area. Heavy sedation should be initiated when the patient is first seen. This heavy sedation acts to raise the stimulas threshold, decreases the anxiety reaction and decreases the abnormal suggestibility. The dose given must not be sufficiently high to convert a sitting case into a litter case. The sedation of choice is sodium amytal 6 to 9 grains (0.4 to 0.6 Gm.) orally or an equivalent dose of a similar rapidly acting sedative. Phenobarbital 4½ grains (0.3 Gm.) may be used, but the slowness of its action is a disadvantage in an acutely excited patient. Intravenous medication is to be avoided in forward areas because it converts a sitting into a litter patient and it is only rarely necessary. Morphine should not be used. If there is a delay in the collecting or clearing station (and the patient cannot immediately be returned to duty), further sedation is given to keep him in a drowsy state. Doses of sodium amytal up to 15 grains (1 Gm.) or phenobarbital up to 8 grains (0.5 Gm.) in twenty-four hours may be given with safety.

c. Treatment at the Evacuation Hospital: Immediately on arrival, a rapid examination of the patient is made in order to classify him either for further evacuation or criteria previously discussed or retention in the hospital for treatment. Those retained should be sent to a separate neuropsychiatric ward, allowed to wash, have the ward rules explained to them and a more exhaustive history and physical examination given. On the basis of this more complete examination, those men with profound disturbances

EVACUATION POLICY FOR PSYCHIATRIC CASES

Retain	Evacuate Immediately	Doubtful
1. All phychoneuroses of the anxiety type except the most severe	1. All psychoses	1. Moderately severe psychoneuroses of hysteria type
2. Mild psychoneuroses of the hysteria type	2. All organic neurologic disorders	2. Minimal concussion due to blast
	3. All psychiatric repeaters	3. Mild psychopaths of criminal and aggressive types
	4. Phychoneuroses with visceral somatic symptoms	4. Moderate mental defectives
	5. All severe mental defectives	5. Mild reactive depressions
	6. All severe psychoneuroses of the hysteria type (stupors, amnesias, reflex tremors and tics)	
	7. Severe psychoneuroses of the anxiety type	
	8. Severe and moderate reactive depressions and psychasthenias	
	9. Definite psychopathic personality	
	10. Most cases of concussion due to blast	
	11. Severe mental defectives	

are evacuated by the following day. Those remaining, whose prognosis seems good, are given explanations for their symptoms, strong reassurance and suggestions and are then sent to bed for two or three days. While in the ward they are given phenobarbital routinely and additional sodium amytal, if necessary, so that most of their time is spent sleeping. All patients are required to be up for each meal, which they get by standing in line with the up-patients, and to keep their own bed and immediate ward area in order. These steps are taken deliberately to maintain a sense of discipline and to discharge any idea of serious or physical illness. All therapeutic discussion is carried out in the open ward with the idea of repetitive mass treatment effect. Intravenous barbiturate catharsis and suggestions may be used in selected cases. Sedation is discontinued for a full day before discharge, and during this time the decision is made whether to return the patient for further duty or to evacuate him to the communication zone. This decision is based on numerous factors, but response to the direct questions "How do you feel now?" and "Do you want to return to your unit for duty?" are very often the deciding factors. There is no use in returning a man who boldly states that he is certain that he will have further trouble. Little attention is paid to new or minor symptoms, except to minimize them and give strong reassurance. No case should be kept in the evacuation hospital over five days.

For the Surgeon General:

ROBERT J. CARPENTER
Lieutenant Colonel, Medical Corps,
Executive Officer

★ ★

TOTAL PNEUMONECTOMY PERFORMED NEAR BATTLE FRONT

According to a recent announcement from the allied headquarters surgeons' office in Algiers, one of the most delicate operations ever done under field conditions was performed by a 5th army surgeon recently under a tented operating room and with a battle raging only a few miles away. The patient, a German soldier, was so badly wounded by shell fragments in the chest that one lung had to be taken out to save his life. Major Paul C. Samson, former assistant clinical professor of surgery at Stanford University School of Medicine, San Francisco, performed the operation. Dr. Samson graduated from the University of Michigan Medical School, Ann Arbor, in 1928 and entered the service May 10, 1941.

★ ★

PSYCHIATRISTS ASSIGNED TO UNITS

The War Department, Washington, D. C. appreciating the advance made in recognizing and treating symptoms calling for specialized handling by psychiatrists of personnel in the armed forces, is revising tables of organization to inclue a neuropsychiatrist, to be assigned automatically to every division. He will be a member of the division surgeon's office and will advise the division surgeon along the line of his specialty. He is to have the rank of captain or

major. During the training period of troops, the division psychiatrist will be expected to detect, treat and eliminate actual and potential neuropsychiatric cases. In addition, he will instruct all officers of the division in the recognition, prevention and treatment of mental casualties. In combat zones it will be his duty to sift and clear casualties of this type, with the object of returning to duty all personnel possible.

★ ★

PHYSICAL DISABILITY DISCHARGES OF THE ARMY

For the twenty month period ended July 31, 1943 discharges from the Army of the United States for physical disability totaled 208,296 men, according to an announcement made by the War Department recently. While more than half of these discharges were of a miscellaneous nature, the larger classifications in order were neuropsychiatric, heart disabilities, impairment of vision, tuberculosis and disabilities resulting from wounds. According to statistics from the Office of the Surgeon General, the percentage of disability discharges resulting from neuropsychiatric causes have increased within the twenty month period. Major Gen. Norman T. Kirk, Surgeon General, stated that "the Army has not granted disability discharges to any men who could be used effectively in the military prosecution of this war."

★ ★

MEDICAL CORPS OFFICERS NEEDED FOR SERVICE IN PARACHUTE UNITS

The War Department has announced, according to the *Army and Navy Journal* of October 2, that medical corps officers in company grades and not over 32 years of age are needed for service in parachute units. Volunteers on acceptance will be sent for training to the Parachute School, Fort Benning, Georgia. Physical standards are those prescribed in section V, War Department Circular 155 of 1942.

★ ★

EVACUATION HOSPITAL IN ITALY BLOWN DOWN DURING STORM

As a result of a heavy rain and wind storm which leveled every tent in a great field evacuation hospital with the Fifth Army in Italy within five minutes, 1,000 sick or wounded soldiers had to be transferred to a nearby tobacco warehouse, according to an item published in the Chicago *Tribune*, October 13. Lieut. Col. Phil A. Daly, of Chicago, who superintended the removal, is director of the hospital staff, most of whose members came from the Michael Reese Hospital, Chicago. Two hundred of the patients most seriously ill were moved to a big barn and hayloft across the field. All this was accomplished in less than two hours. Colonel Daly stated that "It was really a mess, with mud over everything. How we got them all out of there, I don't know. If we had planned this it would have taken two days. The storm was almost a tornado. It blew over an x-ray generator." Capt. Philip Marcus of Chicago, a member of the medical staff, said that one operation was finished under the operating table by flashlight after the tent blew down.

★ ★

PHYSICAL EFFICIENCY AMONG SOLDIER TRAINEES SHOWS IMPROVEMENT

The War Department, Washington, D. C., announced on October 2 an average improvement of 21 per cent in physical efficiency among soldier trainees in the first term of participation in the Army Specialized Training Program. Performances were recorded in seven events among 2,557 trainees at the twelve institutions in which the program had its inception, both at the start of the course and approximately three months later. Gains in various events ranged from 6 to 30 per cent. Trainees devote six hours weekly to physical training.

★ ★

FIRST WOMAN MEDICAL OFFICER TO BE GIVEN RANK OF LIEUTENANT COMMANDER

Lieut. Comdr. Catherine Louise McCorry, MC-V (S), (F), U. S. N. R., is the first woman medical officer to be given this rank since the Navy has accepted women doctors, according to the Bureau of Medicine and Surgery in its weekly release dated October 4. Lieutenant Commander McCorry graduated from Loyola University School of Medicine, Chicago, in 1930 and has been employed by the department of public health in Illinois as a psychiatrist and internist since completion of her training. It is expected that she will be ordered to active duty on or about October 25.

COMPLETE INSPECTION OF ALL NAVAL CONVALESCENT HOSPITALS

The *Army and Navy Journal* of September 25 states that Rear Admiral Luther Sheldon Jr. (MC), U.S.N., assistant chief of the Bureau of Medicine and Surgery, and Comdr. F. J. Braceland (MC), U.S.N.R., neuropsychiatry section, have completed an inspection of all naval convalescent hospitals in the western and southwestern parts of the country. As a result of this trip Admiral Sheldon is convinced that with some additional expansion the Medical Department of the Navy is in a position to handle any burden that may be thrown on it by reason of the war in the Pacific.

★ ★

Lieut. Col. Loyal Davis, consultant to the Army's chief surgeon, was in Chicago recently on a brief leave after a full year in the European theaters of war.

★ ★

GENERAL CLARK EULOGIZES WORK OF MEDICAL UNITS AT SALERNO

HEADQUARTERS FIFTH ARMY
Office of the Commanding General
A.P.O. No. 464, U. S. Army
In the field
25 September 1943

Major General Norman T. Kirk
Surgeon General, U. S. Army
Washington, D. C.

Dear General Kirk:

I desire to express the highest commendation for the wonderfully fine work performed by the medical units of this Army. Their devotion to duty under the hazardous and trying circumstances of the landing in Salerno Bay and their skill and efficient administration reflect the best traditions of the Service. Many wounded officers and men, who will eventually be restored to full health, would have died but for the effective work of the Medical Corps. I am especially well pleased with the performance of the Surgeon Fifth Army. He has done a magnificent job.

From the first landing to the date of this letter, 3,335 casualties have been admitted to Fifth Army hospitals. The first hospital opened within 3 to 5 miles of the front lines. The next hospital began to function the following day still closer and under the most difficult conditions. Neither hospital had any nurses when opened. Thus far there have been only 42 deaths in the hospitals. Thirty-two of these cases were those of U. S. personnel who died from wounds. Five were U. S. personnel who died from disease or injuries; 5 were enemy who died of wounds. Many of those who survived would never have reached a hospital alive had the hospitals been located at a normal distance from the front.

Two thousand and sixty-one cases have been evacuated to North Africa by air and sea.

The beach medical service was superior. One medical battalion distinguished itself on the beaches under heavy fire early in the operation. I shall recommend that the unit be cited for its gallant work under terrible conditions.

The medical supply system began to function according to plan with the assault wave, and despite the most difficult conditions it rapidly developed to the highest state of efficiency.

Among the difficulties with which the medical services have had to cope were the loss of the entire equipment of our third evacuation hospital and the bombing of a hospital ship which was bringing the nurses. Fortunately only one nurse was injured, and all are again on their way to Italy to rejoin their units.

The whole performance of the Fifth Army medical services has been most heartening to me and has been of incalculable aid in the operation. I have been so favorably impressed with their performance that I cannot forbear to write you this personal letter to tell you of my gratitude and admiration.

Mark W. Clark,
Lieutenant General, U. S. Army,
Commanding.

★ ★

HUGE HOSPITAL PLANE DEDICATED

The *Spirit of Norwood*, the Douglas Skymaster purchased with war bonds sold during the month of October in the Norwood Park area (Ill.), was dedicated on November 3 at the Douglas plant. The plane made its army acceptance flight on November 2 over the neighborhoods where the bond buyers reside. The hospital ship is equipped to carry 52 litter beds, 4 doctors and a crew of 6. The cost of the ship was $500,000, but the communities raised $766,880. Picture postcards of the ship will be sent

to the 1,200 men and women in service from the area to show them "we're doing what we can here at home." The drive included the communities of Edgewood, Rosedale and Higgins as well as Norwood Park, Ill.

★ ★

DISTINGUISHED SERVICE MEDAL TO GENERAL MAGEE

By direction of the President, a Distinguished Service Medal was awarded by the War Department to Major General James C. Magee, United States Army, "for exceptionally distinguished and meritorious service in a position of great responsibility as Surgeon General of the Army for four years terminating May 31, 1943." The citation states: "His far sighted and dynamic energy was greatly responsible for our soldiers being able thus far to emerge from battle with the lowest mortality rate among the wounded in our history. The Army has benefited greatly from his eagerness to avail himself of the most expert advice and data from the civilian medical profession in the fields of research against epidemics. General Magee foresaw and prevented a dangerous shortage of surgical instruments by pressing the development of domestic manufacture, resulting in an ample supply and improved quality of these vital materials. Under his guidance the Army's battle against the acquisition of venereal disease produced the lowest rate of infection in the Army's history."

★ ★

AVIATION MEDICAL EXAMINERS

Graduation exercises were held at the School of Aviation Medicine, Randolph Field, Texas, on October 7 following completion of the course for aviation medical examiners. The didactic portion of the course was conducted at the School of Aviation Medicine, Randolph Field, Texas, and the practical portion of the course at the three army air forces classification centers. The list of students from Illinois graduating:

Charles F. Alderson, Captain, East St. Louis.
Soddie J. Barkett, Captain, Cicero.
John B. Beare, Captain, Chester.
James W. Clark, Major, Chicago.
Howard D. Countryman, Major, Rockford.
Joseph A. Davis, 1st Lieut., Chicago.
Joseph C. Ehrlich, Captain, Chicago.
Edward A. Fahnestock, Captain, Bridgeport.
Harry L. Faulkner, Major, Chicago.
Roy L. Kenward, Captain, Melvin.
Philip J. Lopresti, 1st Lieut., Chicago.
Herman L. Mishkin, Captain, Chicago.
Jean H. Motier, 1st Lieut., Chicago.
Samuel C. Noto, 1st Lieut., Chicago.
Herbert P. Rasche, 1st Lieut., Maywood.
Keith Rhea, Major, Chicago
Morton Simons, Major, Chicago.
Guy L. Tourney, 1st Lieut., Quincy.
John W. Vertuno, Captain, Melrose Park.
Max I. Vinnecour, Captain, Chicago.
Hugh H. Worsley, 1st Lieut., Chicago.

★ ★

WOMEN PHYSICIANS NEEDED IN ARMY AND NAVY MEDICAL CORPS

A nationwide campaign will be opened on December 4 by the American Women's Medical Association to stimulate applications by women physicians for commissions in the Army and Navy Medical Corps, according to an item in the New York *Times*, October 5. The drive, which will be under the direction of Dr. Zoe Allison Johnston, Pittsburgh, national president of the association, will start its campaign at the annual meeting of the organization's executive board in Pittsburgh. The medical department of the Navy is reported to have openings in each of three ranks, lieutenant junior grade, lieutenant senior grade and lieutenant commander, and the major demand is for women laboratory physicians, psychiatrists and pathologists. Dr. Eva Carey, president of the Pittsburgh Women's Medical Society, stated that, "While there is no present surplus of women doctors, there is available a valuable supplement to the male contingent."

★ ★

SPECIAL HOSPITAL ESTABLISHED TO TREAT BURNS

According to a recent report from Algiers, Lieut. Col. Edward A. Krause, formerly of Washington, D. C., has been named head of the special hospital established to treat burns received on the battle field, under the Army's new "selective hospitalization" plan. Col. Edward D. Churchill, former professor of surgery at Harvard University, Boston, and now on duty in Algiers, said that the new system whereby soldiers with special types of injuries are sent to special hospitals, such as that headed by Lieutenant Colonel Krause, has had three large advantages: "Naturally the establishment of cen-

ters specifying the treatment of various types of casualties will render better service to the men wounded in battle. Second, these centers also will be educational centers where surgeons and specialists from other hospitals may observe technics. Then too, technical data to check on the results of surgical management and point the way to improved methods can be assembled."

★ ★

U. S. ARMY UTILIZING TALENTS OF CHICAGO NEGRO DOCTORS

Many prominent Negro physicians from Chicago are looking after the health and battle care of Negro troops in United States camps and overseas. Fort Huachuca, which is located on the side of a mountain between Bisbee and Nogales, Ariz., and which is said to be the principal Negro training center in the country in the sense of providing finishing work with combat troops, is the home of some 20,000 Negro soldiers. There the 92nd Division recently celebrated its first anniversary as an activated division. Lieut. Col. Median O. Bousfield, former member of the Chicago Board of Education, is in command of the station hospital at Fort Huachuca; Major Harold W. T. Latcher and Major Roscoe C. Giles, both of Chicago, are chief of the medical service and chief of the surgical division respectively. Many of the Negro nurses at Fort Huachuca are from Chicago, as are many of the girls in the WAC battalion there.

Maj. John B. West, former superintendent of Provident Hospital, Chicago, with thirty nurses, commands a station hospital in North Africa. En route overseas is another Negro station hospital staff under the command of Major Hugh Simmons of Washington, D. C., with which group Capt. Arthur Thomas, former resident surgeon at Provident Hospital, Chicago, is also attached. Another Chicagoan, Major Harvey J. Whitfield, directs the medical detachment with the 365th Engineers at Camp Campbell, Ky.

★ ★

THE SCHICK GENERAL HOSPITAL

The Schick General Hospital, which was formally opened on October 7, is located 3 miles north of Clinton, Iowa. The hospital has a capacity of 1,514 beds and consists of 103 separate structures. The ground consists of 89.6 acres of land enclosed by an 8 foot wire fence. There are a chapel, laundry, post exchange, post office, ambulance service, recreational facilities and air conditioned operating rooms. Prior to the formal opening of the hospital there were 2,687 patients admitted (Sept. 30, 1943), of whom 674 were operated on. The first patient was admitted on Feb. 15, 1943, and on the same day the first surgical operation was performed, on a soldier from this command. On the day of the formal opening there were 1,175 patients in the hospital, representing every overseas theater of operation. The allotment of nurses is 120 and of enlisted men 512. These men are being trained as operating room, x-ray and laboratory technicians as well as ward attendants. The staff of the Schick General Hospital trained the enlisted personnel of the Eighth General Hospital before it went overseas and is now training the Ninety-First General Hospital. Maj. Gen. Norman T. Kirk, the Surgeon General, has designated the Schick General Hospital as a Neurosurgical Center. The entire project represents an investment of more than $6,000,000.

The Schick General Hospital was named in honor of Lieut. William Rhinehart Schick, first army medical officer to be killed in action during the current war. Lieutenant Schick graduated from the University of Illinois College of Medicine in 1939 and was appointed a first lieutenant, medical corps reserve, April 28, 1941. He was killed when the bomber in which he was flying from the United States to Pearl Harbor was shot down during the raid on Pearl Harbor, Dec. 7, 1941.

When a state fails to provide sufficient beds it is committed to a plan that is wasteful, ineffective, and in the long run costly. Tuberculosis is curtailed but little, if at all, by treating only a small percentage of the patients and leaving many open cases in the community to sow the seed for another crop of victims who in their turn will be needing care. If we admit only the advanced cases to give them terminal care, we leave in the homes the hopeful cases until they in turn need terminal care. Halfway measures will not exterminate tuberculosis. A sanatorium bed should be available for every case of active tuberculosis regardless of the stage of the disease. Treatment that will benefit the patient and also serve to shield others by protecting them from infection is the real objective of case finding. The Modern Attack on T.B., Henry D. Chadwick, M.D. & Alton S. Pope, M.D.

Original Articles

AN EVALUATION OF ROENTGEN STUDIES IN HEART DISEASE IN CHILDREN

SOL P. DITKOWSKY, M.D.
NORMAL
EDWIN RYPINS, M.D.
BLOOMINGTON

During the latter part of 1940 and the early part of 1941, hemolytic streptococcic infections of the throat were prevalent in McLean County. At the same time an increase in the occurrence of rheumatic fever was noted. At the Illinois Soldier's and Sailor's Children's School the two diseases occurred in epidemic form, 88 children developing acute rheumatic fever. History obtained in 50% of the children revealed that most of these patients had an acute exacerbation of an old process.

A cardiac survey was then made in which all of the children in the institution were examined clinically at which time an attempt was made to elicit pertinent facts in the past history. Each patient had a six-foot teleoroentgenogram of the chest, fluororscopic studies, an electrocardiograph and a stethograph. In addition to the examination by the resident staff, each patient's findings were reviewed by a consulting staff consisting of an internist, two pediatricians, and a roentgenologist. The ages of the children examined ranged from three to nineteen.

In this study we have attempted to evaluate the significance of an abnormal cardiac contour in childhood and to evaluate the significance of deviation of the esophagus caused by an enlarged left auricle. All of the patients were classified according to the standards of the New York Heart Association.[1]

Changes in cardiac contour are said to be caused by an enlargement of one or more chambers of the heart. This in turn results from the combination of an inefficient myocardium plus a valvular lesion.[2] The earliest change which occurs with enlargement of the right ventricle is a prominence of the left border of the heart in the region of the pulmonary conus. This is seen with mitral stenosis and also in patients with mitral insufficiency associated with a rotation of the right ventricle. With a progressive enlargement, the upper and middle portions become more convex and become associated with some rotation so that the aortic knob becomes small or invisible. This mitral contour may be seen also with patent ductus arteriosus, interauricular septal defect, thyrotoxicosis, acquired disease of the pulmonary orifice or artery, and is said to exist physiologically to a lesser degree.[3]

Enlargement of the left ventricle is seen with mitral insufficiency and aortic disease. It may be recognized by an elongation of the lower segment of the left cardiac border as shown by an increase in the convexity or rounding of the radiologic apex which does not disappear on deep inspiration. (Figure 1)

Enlargement of the left auricle is said to be a pathognomonic feature of mitral heart disease.[4] This may be best demonstrated in the right anterior oblique position by barium studies which will show the degree of esophageal displacement or by a filling of the retro cardiac

From the Illinois Soldier's and Sailor's Children's School Hospital — Normal, Illinois

Read before the Section on Radiology at the Illinois State Medical Convention, Springfield, May 20, 1942.

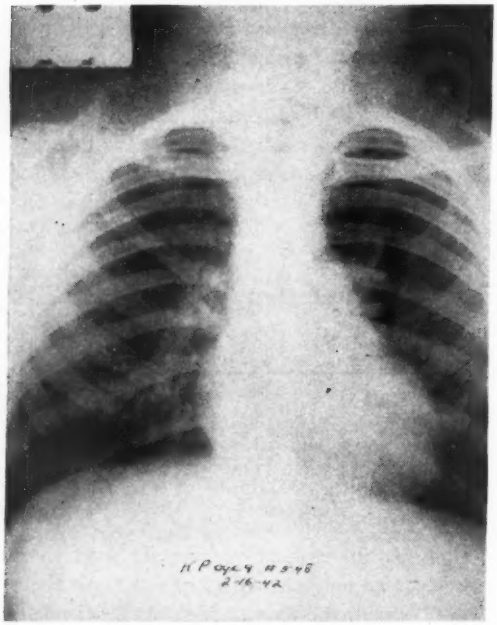


Figure 1 — Cardiac contour illustrating left ventricular enlargement

space. This displacement may occur in any direction but is usually dorsally and to the right.

The normal esophagram shows an aortic arch impression with little or no deviation at the level of the left atrium varying somewhat with body build and inspiration. There is a tendency for a more vertical route with an increase in the straight verticle diameter of the chest. With left auricular enlargement the barium deviated abruptly to the right and dorsally below the aortic impression.

By placing an old washed x-ray film to the fluoroscopic screen, the course of the barium was traced. This tracing could then be recopied on ordinary white paper. By measuring the deviation of the barium from the vertical a normal curve was established.

Results of Study: — Of 532 children studied, 208 (39%) showed changes in contour and 31 (5%) revealed positive esophagrams.

The clinical study revealed that of the 208 children with cardiac changes, 78 showed mitral configuration, 108 showed left ventricular enlargement, 16 had enlargement of the pulmonary conus and 6 had globular configuration.

Of 78 children with mitral configuration, 25 had mitral stenosis clinically, 27 showed systolic murmurs clinically with a systolic and diastolic or stethograph, 21 showed murmurs of mitral insufficiency, 3 had a mixed aortic and mitral lesion, and 2 had no clinical findings.

Of 108 children, with left ventricular enlargement, 23 had systolic and diastolic murmurs at the apex, 5 had systolic murmurs clinically with a mitral diastolic murmur elicited only with stethographic studies, 68 had systolic murmurs apparently organic, 7 had mixed lesion of the aortic and mitral valves, 3 had murmurs apparently functional and 2 had no physical findings.

Sixteen children had configuration showing an enlargement of the pulmonary conus, of which three had systolic and diastolic murmurs at the apex and 13 had systolic murmurs at the apex, apparently organic. Six had globular shaped hearts with systolic murmurs over the precordium.

324 children had no cardiac contour abnormalities. 18 of these had systolic and diastolic murmurs at the apex, 12 had systolic murmurs clinically with a systolic and diastolic murmur on stethograph. 98 had murmurs that were probably organic, 62 had murmurs probably functional and 139 no abnormal findings.

Discussion: — Murmurs in children are said to occur in 50% of normal children. The differentiation between these murmurs and organic murmurs is often very difficult.

In addition it has been observed that the murmurs of rheumatic heart disease may be variable, being present at one examination and absent at another. The explanations usually given are that the changes in the valve may be too early to produce murmurs; or that because of enlargement of the heart the velocity of blood flow is reduced so that the murmur is inaudible.[5] However repeated observation has shown children with definite rheumatic heart disease observed through periods of acute exacerbation who during inactive periods had murmurs that were difficult to elicit or be entirely absent and where a repeat examination several days later showed very pronounced murmurs. In several of these children stethograms revealed the murmurs that could not be elicited clinically. T. D. Jones has called attention to the fact that murmurs are often seen to disappear in observing patients with rheumatic heart disease.[6]

Pronounced enlargement of the right ventricle was observed in other children who had basal systolic murmurs which would disappear upon change in position or respiration.

Case 1. M. J., a well developed and well nourished white female, age 12, was admitted to the institution on June 26, 1934 at which time a basal systolic murmur was elicited. Since then, no abnormal cardiac findings are recorded until 1940 when she was admitted to the hospital for an acute otitis media. At that time a systolic murmur was heard best at the base. A history was obtained of frequent leg aches. A roentgenogram (Figure 2) revealed enlargement of the right ventricle.

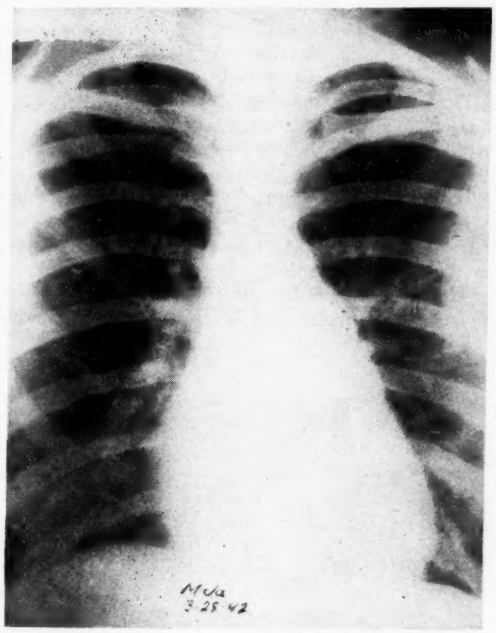


Figure 2 — Case I — M. J. age 12. Above cardiac contour shows a right ventricular enlargement in child

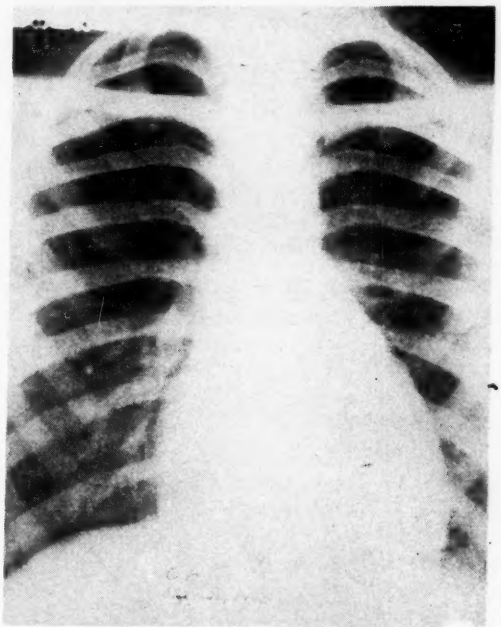


Figure 3 — Case II — C. H. age 12. Above cardiac contour shows a mitral configuration

In several instances the abnormal cardiac contour with left auricular enlargement was noted in children with no clinical findings. In most of the patients the typical murmurs of the mitral stenosis or insufficiency would be elicited if the patient were examined often.

Case 2. C. H., a well developed boy of twelve years, was admitted to the institution on September 7, 1934. Admission examination and routine periodic physical examinations did not reveal any cardiac abnormalities. On May 12, 1940, the patient was admitted to the hospital because of a fever, pain in the right chest, and abdominal pain. He was thought to have a pneumonia but roentgenograms revealed clear lung fields. However the cardiac shadow revealed a mitral configuration. (Figure 3) On April 2, 1942 the boy was admitted to the hospital because of polyarthritis and fever. A loud systolic murmur was elicited over the precordium and a stethogram revealed a double murmur. Clinically the diastolic murmur did not become apparent until several weeks later.

Several of the children who have had several exacerbations of rheumatic fever with progressive myocardial damage as shown by electrocardiographs failed to show cardiac contour abnormalities. The factor probably responsible for this is that these patients have had their physical activities markedly limited. On the other hand routine serial roentgenogram on other patients who apparently were progressing well showed progressive change in contour and size of the cardiac silhouette which would cease when the activities of the patients would be curtailed.

Case 3. J. M., white male age 9, was hospitalized in 1938 because of a persistent low grade fever associated with pallor and epistaxis. A loud systolic apical murmur was first noted during July 1940. Since then the patient has had several admissions because of pallor, low grade fever and epistaxis. A routine roentgenogram on December 10, 1941 showed normal cardiac configuration. On February 5, 1942 the patient was admitted because of a cough and fever. A roentgenogram at that time showed cardiac enlargement. A repeat film six days later after the infection had subsided; showed a return of the normal cardiac silhouette. (Figure 4) A sister, age 15, had several rheumatic episodes during 1940. She had a

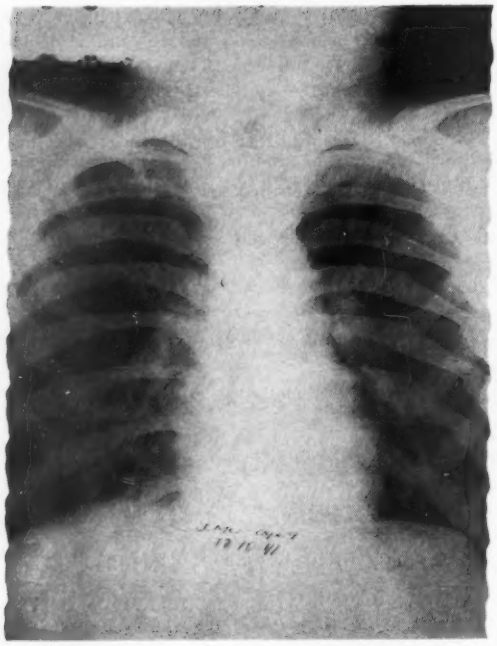


Figure 4 — Case III — J. M. age 9 A. Routine chest film

past history of being in a cardiac convalescent home at the age of six.

Early in a primary attack of a carditis, roentgen changes are rare except in instances where the process is especially malignant.[3] Thus the roentgen ray studies affords an objective criteria in following the progression of a patient and in determining the length of time for convalescence.

Only 4 (2%) children of 198 with abnormal configuration had no physical findings. The others had evidence of organic heart disease. This would indicate the abnormal contour in childhood carries the same significance as in later life.

The value of the esophagram as an aid in diagnosing organic heart disease in childhood would seem to have limited value. If present it appears to be significant providing that the deviation is pronounced. Of 31 positive esophagrams 27 (87%) had organic heart disease on clinical examination.

Case 4. D. K., white male age 8, one of seven siblings, had been well until March 5, 1941 when he was admitted to the hospital because of shortness of breath. Since then he has had several attacks of carditis. On January 20, 1942, the patient developed a pharyngitis. Following this he had a daily temperature of 102° with an elevated pulse rate and sedimentation rate. He became short of breath and developed rales at the bases of the lung. On February 2, 1942, an esophagram showed left auricular enlargement while an anterior posterior view several days later showed

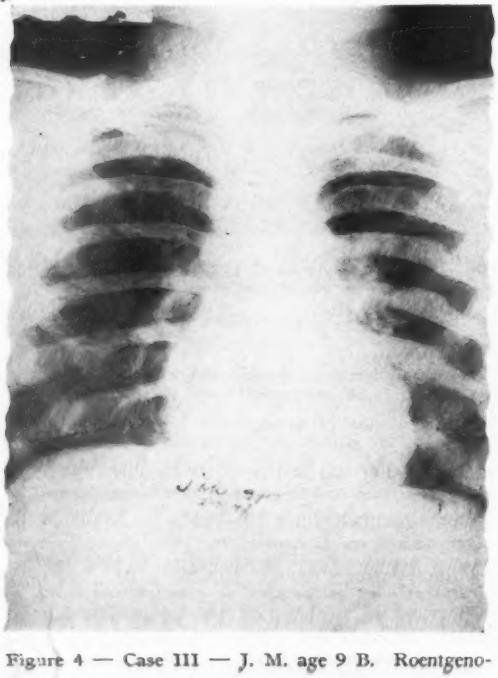


Figure 4 — Case III — J. M. age 9 B. Roentgenogram of heart showing enlargement following acute bronchitis

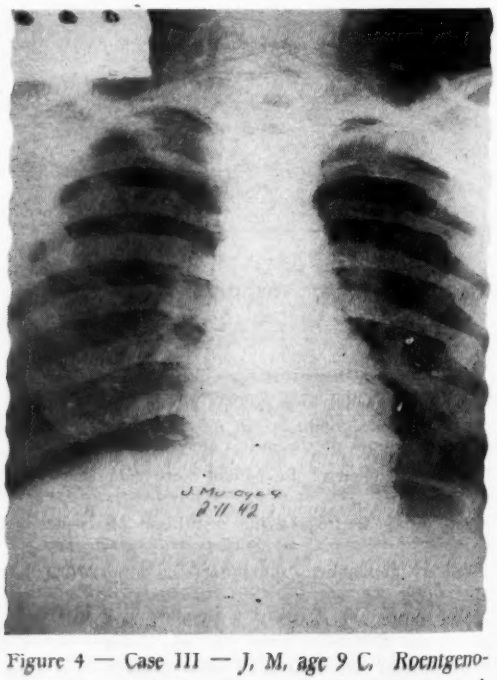


Figure 4 — Case III — J. M. age 9 C. Roentgenogram of heart showing decrease in size following bed rest

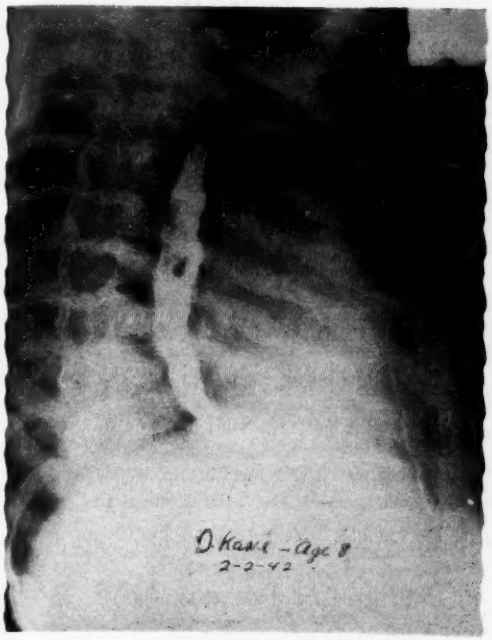
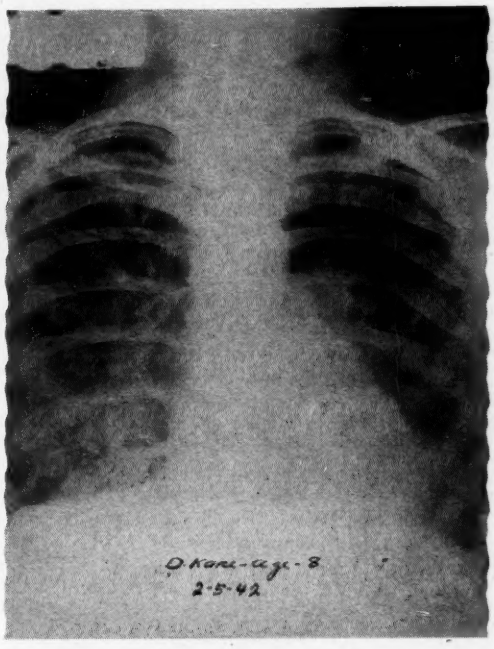


Figure 5 — Case IV — D. K. age 8. Anterior posterior view of chest shows mitral configuration of heart with enlargement and passive conjestion of lungs.



The barium filled esophagus shows a deviation dorsally indicating left auricular enlargement.

cardiac enlargement with passive congestion. (Figure 5) The patient responded to therapeutic measures and the carditis subsided. On March 13, 1941 a brother, age 13, died of rheumatic heart disease. A sister, age 14, has a mixed valvular lesion and has been hospitalized since August 1940. An older brother was recently rejected from the army because of a cardiac condition. Two other children in the family have systolic murmurs at the apex without cardiac enlargement and complain frequently of leg aches.

Left auricular enlargement is said to occur in every case of mitral disease and should in most instances correspond with the deviation of the esophagus, yet only 21 (8%) of 225 children with evidence of mitral disease showed a positive esophagram. Children with a pronounced enlargement in anterior posterior position often failed to have this change.

In some instances children with a markedly positive esophagram were observed to have a return to normal as their clinical condition improved.

SUMMARY

1. Abnormal cardiac contour denotes cardiac pathology although cardiac pathology may exist without such roentgen changes.

ROENTGEN CHANGES

Chart showing results of roentgen studies of the heart as correlated with clinical findings.

Physical Findings	Right Ventricle Enlarged	Left Ventricle Enlarged	Pulmonary Conus Enlarged	Globular Shape	No Change	Positive Esophagram	TOTAL
Systolic and Diastolic murmurs at the apex 25	23	3	0	18	15	69
Systolic murmur at the apex but with stethogram a diastolic murmur also elicited ..27	5	0	0	12	0	44
Systolic murmur at apex with cardiac enlargement 21	68	13	6	0	1	109
Mitral and aortic disease ... 3	7	0	0	0	5	10
Probable organic murmurs . 0	0	0	0	98	6	98
Functional murmurs	3			62	2	65
Normal 2	2			134	2	138
TOTAL 78	108	16	6	324	31	532

2. Progressive roentgen studies of the heart offers an objective criteria in evaluating the status of a convalescent patient.

3. Deviation of the esophagus cannot be demonstrated in many children who have evidence of mitral disease.

4. Roentgen examination is an important aid in the diagnosis of heart disease as the typical auscultatory findings may be absent or overlooked.

BIBLIOGRAPHY

1. Nomenclature and Criteria for Diagnosis of Disease of the Heart — New York Heart Association 1940.

2. Tausigg, Helen B. and Goldenberger, Marcel: Roentgenologic Studies of the Size of the Heart in Childhood. American Heart Journal Vol. 21 April 1941.

3. Roesler, Hugo: Clinical Roentgenology of the Cardiac Vascular System, Charles C. Thomas, Springfield, Ill. 1937.

4. Parkinson, John. Enlargement of the Heart (Lumleian Lecture) Lancet 1:1337 (June 13), 1391 (June 20) 1936.

5. Sosman, Merril C. Subclinical Mitral Disease, J.A.M.A. 115:1061-10-66.

6. Jones, T. D. Bland, E. F. and White, P. D. Disappearance of the Physical signs of Rheumatic Heart Disease. J.A.M.A. 107:569, 1936.

DISCUSSION

Dr. Edwin Rypins (Bloomington, Illinois): First I must publicly thank Dr. Ditkowsky for his excellent compliment.

I would like to express what to me is the most important part of this subject, namely, abnormal cardiac contour denotes pathology. Now, what does it denote? I believe Dr. Ditkowsky has shown in children that it probably denotes rheumatic fever.

Another point is that an abnormal contour may be present and yet there are no auditory findings. I stress that point because I have had the experience in reporting a rheumatic-fever patient on the basis of an abnormal contour and the referring physician doubting that very much, getting the patient back, exercising him, and still not hearing anything. Yet, three or four days, or perhaps even three or four weeks later, the patient would have a very obvious murmur, and the physician would call up to state that fact. Therefore, I would say, do not be discouraged when you make such a report and the referring physician states that he is not able to hear anything. If he sees the patient often enough, or if the patient gets an upper respiratory infection or some other strain on his circulatory system, the referring physician will hear something.

Another point that I feel is unusual, because you do not find it in the literature, or at least, I was unable to find it, is the lack of deviation of the esophagus in these patients who obviously have rheumatic fever and have an enlargement of the left auricle. The only explanation I have for that is that all of the previous work has been done on adults, and as these patients are followed, in perhaps the next eight, ten, or fifteen years, they, too, will show a positive esophagram, whereas at present it is entirely negative.

I feel Dr. Ditkowsky should be highly complimented for his excellent work in this line. He is a pediatrician, and being interested in rheumatic fever from that standpoint, from there he went on. He has done all of this work himself; I merely saw the films. He has fluoroscoped them all, and I am sure he has learned a great deal about it. (Applause)

Dr. Harry Olin (Chicago): Do you find, Doctor, that diameters help you? Of course, there is very little enlargement. It would be a good thing to know regarding the customary diameters, if these diameters would help us in denoting the unusual or rather abnormal enlargements of the chambers, say the left ventricle, the right ventricle, the bulge in the left auricle, the bulge in the right side of the heart, and so forth. They have helped me in the past, and while many men do not use them, I still cling to the use of these diameters. I think they are of great help.

Dr. Robert L. French (Oak Park, Illinois): I would like to ask a question. Have you found any pulmonary changes that are specific?

Dr. Harry Olin (Chicago): I would like to ask another question. I was not present during the first part of the paper, Doctor, but I assume routinely you go through the various lesions, and you bring out the various changes in contour of the right and left auricle and left ventricle?

Dr. Sol Ditkowsky, (Normal) (closing): I am not very familiar with the measurements. Dr. Rypins probably can answer that better than I can, but I can see where we can have a change in the contour, as in enlargement of the pulmonary conus region, without having an apparent increase in the size of the heart. I might say that the anterior posterior view of the enlargement may not always be apparent, and if we used Wilson's clearance of an angle to demonstrate the left ventrical hypertrophy, I think we would probably have greater incidence.

I would also like to bring out that some of these changes are not permanent; that as a child progresses favorably some of the signs might disappear and normal contour might result. We have had children with esophagrams who came back to normal after the clinical condition improved. I think no paper on the roentgen study of rheumatic fever would be complete without mentioning the calcification of the mitral valves. We did not find any in our study, although Sosman might have. Another factor would be that all of our patients were children, and it probably takes years to form these calcifications.

We have not found specific pulmonary changes. We had one child who had an acute rheumatic fever at the time of the epidemic who had pulmonary findings and also had a picture of an inflammatory lesion in the chest. Of course, we had no way of proving whether it was on a rheumatic basis or pneumonia, but the lung typing showed the type VI pneumonia.

Dr. Olin is correct in his assumption.

SYMPATHECTOMY IN THE TREATMENT OF PERIPHERAL VASCULAR DISEASES

Geza de Takats, M. D., M. S., F. A. C. S.
CHICAGO

In 1928 a small, rather obese individual, 48 years old, was admitted to the old Wesley Hospital, complaining of pain on walking, numbness, and tingling of toes on both feet. There were marked color changes on assuming different postures. There was evidence of vasospasm. With the diagnosis of Buerger's disease, I did my first bilateral transperitoneal sympathectomy on this patient. On the fifth day he was seized with excruciating retrosternal pain, got out of bed, fell to the floor, eviscerated and died within a few minutes. Autopsy revealed a fresh thrombus in the coronary artery, an atheromatosis of the abdominal aorta and marked atheromatous plaques in both popliteal arteries.

In 1929, a thin emaciated Greek cook came to the surgical dispensary, with multiple ulcerations on his fingers, a hide-bound tight skin, thickening of the skin over the wrists, cheek bones and sternum. A diagnosis of diffuse scleroderma was made and a dorsal sympathectomy was done with a posterior approach. The pleura was hard and very thick. The chain was removed with difficulty. He received no benefit this operation and died four months later of uremia.

I mention these two patients since such early experiences well illustrate several don'ts in the surgery of the sympathetics. No surgeon should undertake these operations unless he is thoroughly familiar with the type of disease he is dealing with. The real advances in this field are to be expected from clinics, where men who understand vascular disease are performing sympathectomies in a carefully selected group of cases. The general surgeon, in close co-operation with an internist who is interested in cardiovascular disease, is best fitted for this job.

The history of sympathectomy for peripheral vascular disease is full of blind alleys and blunders. At first the adventitia of major arteries was stripped with the idea that it would increase circulation to an extremity with poor blood supply. Jaboulay in France did a periarterial sympathectomy for a perforating ulcer of the foot. Today, we know that only a very small part of the sympathetic fibers to the foot are severed by such an operation, and that the perforating ulcers of the foot are due to lack of sensory stimuli producing vasodilation and are not effected by sympathectomy.

Another concept, which was founded upon doubtful anatomical and physiological conjecture, was that brought forward by Hunter and Royle of Australia, who performed sympathetic ramisectomy for spastic states. This indication now has generally fallen into disrepute, but a very significant additional observation was the finding that the extremity deprived of its sympathetic supply showed vasodilation and was warmer than its fellow. With these observations began the treatment of peripheral circulatory disturbances by sympathectomy, until gradually a definite crystallization of its indications, technique and limitations has developed. It is my purpose in this presentation to give a brief summary of my experience in this field.

Since 1928 I have record of 195 sympathectomies performed for peripheral vascular disease. Of these there were 126 lumbar, 38 cervical and 31 dorsal sympathectomies. The technique of these operations has naturally undergone modifications since they were first started; so are the indications different. Because of these modifications, the present results are definitely superior to our early attempts.

Indications. — The purpose of sympathectomy is to free an extremity from the ever-present fluctuations of vasomotor tone. The extremity then is no more part of a heat-regulating mechanism and all the blood can serve the nutritional demands of the tissues. The extremity can be neither heated nor cooled by central or reflex stimuli. Its vessels are at comparative rest, only contracting directly on application of heat and cold.

One of the most important steps to take before a sympathectomy is contemplated is to determine how much of the diseased vascular bed is capable of dilating and how much of it is so permanently damaged that no vasodilation is possible. In my clinic we have used many methods to determine this; none are as reliable as the direct infiltration of the sympathetic chain with novocaine, followed by the determination of skin-temperature or an oscillometric

Address delivered on May 28th, 1943 before the Duluth Surgical Society. From the Department of Surgery, University of Illinois; the St. Luke's Hospital and Research and Educational Hospital, Chicago.

curve. With these methods one measures the capacity of the peripheral vascular bed to dilate when its sympathetic supply is interrupted. It does not necessarily measure vasospasm, since a certain amount of vasomotor tone is always present.

For practical purposes a small, inexpensive skin-thermometer (mercury) is satisfactory. If the oscillometer is available, the increased oscillations following a block of the sympathetics may well demonstrate the increase in circulation.

In Table 1, I have listed the indications for sympathectomy in various types of peripheral vascular diseases. We have adhered to these principles ever since a vascular clinic was started at Northwestern University and later at the University of Illinois. The organization of such a clinic was described previously[1]. Since the proper

TABLE 1

INDICATIONS FOR SYMPATHECTOMY IN PERIPHERAL VASCULAR DISEASE

1928 - 1942

Diagnosis	Number of Patients	Number of Operations	Indications
Raynaud's Phenomena	15	35	Lack of marked structural damage to vessels. Absence of sclerodactylia.
Buerger's disease	51	126	Absence of acute phase. Good collateral reserve. Not over 50 years of age.
Poliomyelitis	9	9	Vasospastic, painful limbs, preferably between 6 and 10 years.
Causalgic States (Sudeck's atrophy) (Reflex dystrophy)	8	8	Good but fleeting response to sympathetic block. Spreading neuralgia.
Miscellaneous Group	17	17	Acute arterial emboli or thromboses. Arterial or arterio-venous aneurysm. Livedo reticularis. Hyperhydrosis.
	100	195	

selection of cases is one of the most important factors bringing about success, it might be well to discuss our method of selection in the individual diseases.

RAYNAUD'S DISEASE

It is not to be supposed that Raynaud's disease is very frequent. The beautiful study of Hunt[2], strongly recommended to those who are interested in Raynaud's phenomena, has sufficiently emphasized that many vascular diseases, inflammatory, toxic or degenerative, may produce triphasic color reactions, white-blue-red, which are so characteristic of this syndrome. Vasoconstrictor attacks may also be produced by lesions of the central nervous system in the brain, in the cord. Stimulation of the sympathetic fibers by a cervical rib, by a narrowed intervertebral foramen, by a scar on the neck, are possible. One arrives then at the diagnosis of Raynaud's disease by exclusion. Between attacks the fingers are entirely normal.

When attacks of digital vascular spasm recur daily, many times, brought on by exposure to cold or emotional stimuli, permanent damage will result to the vessel-wall and the structures of the digits. The musculature of the arteries hypertrophies, the intima thickens and thrombosis develops. Coincidentally, the skin becomes thin, the fat-pads of the digits disappear, a sclerosis of connective tissue appears and a state of sclerodactylia presents itself, which has nothing to do with scleroderma, but is often confused with it. Raynaud's disease is not a vasospastic lesion any more; organic lesions are now apparent. This is the second stage of Raynaud's disease. There is still a vasospastic element but the damage due to recurrent attacks is not reversible.

In a later third stage, small ulcerations or patches of gangrene appear. Infection may be superimposed. Venous thromboses in the smaller vessels complicate the picture. The pain is now continuous, excruciating. The vasospastic element is now negligible.

Sympathectomy is advocated in the first and second stages but not in the third. When the attacks are mild, infrequent and only occur in the winter-time, one might adopt watchful waiting. Outside of protection from cold and attempts at cold-training in slowly decreasing temperatures of water, no method has come to our attention which would alleviate or cure these attacks. Neither ovarian extracts, nor the known vasodilators such as the nitrites, the theobromine derivatives or papaverine have any affect. On careful examination of the fingers after reactive hyperemia, or after a block of the regional sympathetics, one often finds one or more fingers that will not warm up or flush at the same rate as the others. This is then the beginning of the second stage, and operation should now be urged. In the late, third stage with much arteriolar and venular destruction, sympathectomy is

useless. In fact, it is my impression that it may even accelerate gangrene. That sympathectomy may aggravate a circulatory disease instead of improving it is observed, not only in the late stage of Raynaud's disease but also in certain stages of Buerger's disease and in arteriosclerosis. The mechanism of this sudden deterioration of circulation following sympathectomy when the arteriolar bed is damaged will be discussed later.

Our results with sympathectomy in the treatment of true Raynaud's disease have been steadily improving. This is due to a better selection of cases and to a technique in whose evolution Smithwick has played a conspicuous part.[3] With this technique, recurrent sweating has not been observed. The tip of a finger may still show color-changes, but these are slight and severe burning at the end of the attack is absent. The finger which is so affected, has been the one which could not be completely warmed up before the operation; it harbors some structural damage and for this reason is sensitive to cold. This, of course, is no argument against the operation but is a good argument for doing it early.

BUERGER'S DISEASE

This disease of unknown, probably not uniform, etiology, of inflammatory nature with exacerbations and remissions, with vasospasm and organic occlusion may be successfully treated by sympathectomy but great care has to be taken to operate on only certain types of cases and in certain stages of the disease, otherwise failures and unnecessary operations will be numerous.

The primary lesion in Buerger's disease seems to be an abnormal reactivity of the vessel-wall so that segmental thrombi appear. The thrombi, with their vascular and chiefly their perivascular reactions are in turn responsible for a reflex vasospasm which further aggravates circulation. The purpose of sympathectomy in Buerger's disease is to inhibit this vasoconstrictor reflex, put the inflamed vessel-wall at rest and give it an opportunity to heal.

In the acute stage of Buerger's disease, patches of phlebitis or arteritis are present. The oxygen-saturation of the arterial blood is low.[4] The clotting factors in the blood are so increased that patients exhibit a resistance to the action of heparin.[5] Bed-rest, abstinence from tobacco, intermittent venous hyperemia and intravenous injections of sodium tetrathionate may bring about a remission. If the patients are young, if they have a collateral reserve of small vessels which are uninvolved, such a remission can be confidently expected. To do a sympathectomy in an acute stage of Buerger's disease would be analagous to doing an arthoplasty for an ankylosed joint which still harbors infection. The problem resolves itself then to an evaluation of the stage of the disease in which the patient presents himself.

Obvious attacks of phlebitis, red streaks around small arteries of the dorsum of the foot are suggestive of an acute stage of the disease. In the past, the sedimentation rate has been of some help. Recently, the determination of the heparin tolerance of such patients proved worth while.[5] The use of sodium tetrathionate, as proposed by Theis and Freeland,[4] improve the abnormal reaction to heprin. Such a course of treatment, lasting from four to six weeks restores the clotting mechanism of the patients. Surgery can now be undertaken at the optimal time.

Naturally, the extent of vascular damage is also important. In a patient whose major arteries are closed but whose terminal bed in intact, sympathetic block followed by sympathetcomy will result in marked improvement in color, temperature, in relief from pain and in the healing of ulcers. The prognosis of patients who suffer from a more peripheral arteriolar involvement is much worse. In fact, sympathectomy may aggravate some of these cases. The recognition of this arteriolar type of Buerger's disease is made possible by the effect of sympathetic block on the temperature of the toes. If there is no rise, *but a fall in temperature,* the prognosis is guarded. The fall in temperature after sympathetic block must mean that blood has been diverted through arteriovenous shunts to more proximal areas, leaving the terminal vascular bed with less blood than before. When such cases are recognized, it is wise to combine lumbar sympathectomy with amputation of one or several toes. Such toe amputations might be hazardous without the protective action of sympathectomy, but combined with sympathectomy they promptly relieve the patients complaints and restore his earning power.

Following sympathectomy, the patient must continue complete abstinence from tobacco and a scrupulous foot-hygiene. The disease may of course affect other extremities or may even flare up in the sympathectomized limb. In such instances, the activity of the disease has not been arrested and amputation may have to be resorted to. The incidence of major amputations in sympathectomized patients is very small, however, compared with those who have been treated with non-surgical measures.

POLIOMYELITIS WITH VESSEL-SPASM

The ideal patient suitable for sympathectomy is a child, younger than 8 years, with the paralysis limited mainly to one extremity. If these extremities are cold, plum-colored, painful, if nodular, erythematous patches, chilblains, or pressure sores are present, a sympathectomy will provide increased vascularity and greatly add to the comfort of the patient. There is, of course, no effect on the motor paralysis nor have I seen any acceleration of growth, as reported in the literature. In later life the poliomyelitic limb may still respond, but the chronic fibrosis due to persistent edema prohibits a marked improvement. It should be emphasized that only patients exhibiting vasospasm are suitable for sympathectomy; the majority of children do not show such manifestations. In our material only one-third seemed to show such involvement.

SUDECK'S ATROPHY. CAUSALGIC STATES

In recent communications,[6] a group of cases have been reported from our clinic which are characterized by a continuous burning pain, first localized, then spreading, associated with marked vasodilation. Such states follow mild injuries occurring around the wrist or ankle or peripherally to these joints. Only after four to six weeks does osteoporosis, muscle and skin atrophy develop. Later the neuralgia may spread to the root of the limb or even affect a symmetrical area on the opposite limb or may become intractable.

This syndrome then is essentially based on a chronic vasodilation. In the early stages repeated infiltrations of procaine to the sympathetic ganglia are very successful. Later a sympathectomy is necessary. In the stage of spreading neuralgia, which does not respond to sympathetic block, surgical methods including nerve-section, posterior root section or chordotomy are of no avail.

It seem paradoxical that sympathetic paralysis, which brings about vasodilation, should be helpful in such patients. It seems, however, that it relieves the throbbing, burning pain of capillary hypertension of which these people are suffering and diverts the blood away from the capillary bed. It may also neutralize or destroy the pain-substance which is secreted at naked nerve-terminals. The nerve-fibers which are activated in this syndrome seem to be neither sensory somatic nor sympathetic fibers. Sir Thomas Lewis named them nocifensor.[7] They belong to the posterior root system.

MISCELLANEOUS GROUP

A group of patients have been assembled here, whose vascular impairment is either on a purely vasospastic basis or due to a vascular occlusion aggravated by collateral vessel-spasm. *Livedo reticularis*, sometimes called cutis marmorata, is a peculiar vasospastic disorder, terminating in indurations and ulcerations, which has responded favorably to sympathectomy. While it may occur on the upper extremity, in terminal stages of hypertension or in arsenical poisoning, it only becomes pathologically signficant on the lower extremities. The bluish pattern of the subpapillary venous plexus is exaggerated by cold, by dependent position and improved by heat or elevation.

Aneurysms of peripheral arteries may require a sympathectomy preliminary to their removal or obliteration. In arterial aneurysms which are treated by proximal ligation or by obliterative endo-aneurysmorrhaphy, a preliminary sympathectomy adds greatly to the safety of the procedure. Occasionally a spontaneous thrombosis of a subclavian or popliteal aneurysm may require a sympathetic block or a sympathectomy to tide the extremity over a critical period. In arteriovenous aneurysms there is ample collateral circulation to permit the quadruple ligation of artery and vein proximally and distally from the sack: however, even here since collaterals may have to be sacrificed during the operation, an added factor of safety is induced by preliminary sympathectomy.

Sudden arterial emboli or thrombi require immediate sympathetic block with procaine to relieve the concomitant vessel-spasm; if the extremity survives the initial ischemic insult, it may still remain cold, painful and useless. Such extremities, if the patient's general condition

permits, can be definitely helped by a sympathectomy.

Finally, diffuse, intractable hyperhydrosis should be mentioned as an indication for sympathectomy. This is, no doubt, of central origin and the patient will continue to sweat in the non-operated parts of the body. In fact, if all four extremities are subjected to sympathetic denervation, the sweating of the trunk may become intolerably excessive. However, I have seen excellent results from sympathectomy involving both upper extremities with dripping, clammy hands. Such patients become social outcasts and are unable to hold a job. On the other hand, excessive sweating of the feet may result in ringworm-infection, which is impossible to control, in painful excoriations of the skin, in a foul-smelling bromidrosis, all of which can be instantly controlled when the skin is dried up with a lumbar sympathectomy.

The technique of sympathectomies for peripheral vascular disease. Lumbar sympathectomy, at present, is done in two stages a week or ten days apart with a muscle splitting, anterolateral, extraperitoneal incision. The anesthesia is intratracheal ether or a spinal anaesthesia reaching to the sixth dorsal segment. The oblique abdominal muscles must be relaxed. The position of the patient is important. He is on his back with a slight elevation of the operated side and a flexion of the homolateral hip and knee to relax the psoas muscle. The ganglionated chain is removed from the level of the sacral promontory to the diaphragm. This may mean from two to four ganglia or one to several chains. While the removal of the first lumbar ganglia is said to paralyse the contractions of the seminal vesicles, Helfrich and I reported the case of a patient, in whom both lumbar chains and both splanchnic nerves were removed and yet a large number of motile spermatozoa were observed in a condom-specimen.[8]

An adequately performed lumbar sympathectomy results in a loss of sweating from toes to groin. When the first ganglion is missed the denervation is still satisfactory below the knee; there may be a strip of sweating along the distribution of the saphenous nerve, reaching to the foot. If a high lumbar sympathectomy is done which misses the second or third ganglion, the thigh may become warm and dry but the heel and the sole of the foot corresponding to the sciatic distribution remains cold and sweaty.

For the sympathetic denervation of the upper extremity, the preganglionic sympathectomy as described by Smithwick has been finally adopted.[3] I have done a number of dorsal sympathectomies from the back; then the anterior approach through the scalenus muscle was used. The stellate, second and third ganglia were resected and later a preganglionic type, leaving these ganglia intact but severing their connections with the spinal cord was used. Even so, regeneration of fibers occured after some months. The later procedure adopted consists of resecting two or three inches of the third rib paravertebrally,[9] together with the transverse process. The pleura is peeled away, and the second and third intercostal nerves are cut and followed into the intervertebral foramen. By gentle dissection it is possible to deliver the anterior and posterior roots, both of which are cut. The roots retract behind the dura and thus regeneration from this source is prevented. Next, the dorsal sympathetic chain is cut below the third ganglion; I place a Cushing-clip over its distal end whereas the proximal end is swung around and sutured to the muscles of the back. We have not found it necessary to wrap this end of the chain into a silk or cellophane cylinder as Smithwick suggested.

The mortality of these two operations is exceedingly low. Only one patient died after 195 sympathectomies; this was the first patient cited, who was operated on with a mistaken diagnosis and who should have had a preoperative electrocardiogram. There were two infections, one following a lumbar sympathectomy done with an all-silk technique; this patient had a draining sinus for many months. The other infection occurred after a dorsal sympathectomy; the patient developed an intrapleural hemorrhage and later a chronic empyema. He later needed a partial thoraplasty for his complete recovery. Since these operations were done by yearly rotating surgical residents, by some of the associates and by myself, the mortality and the morbidity of these operations seems low.

The results of sympathectomy. It has already been mentioned above, that the purpose of sympathectomy is to produce vasomotor palsy and not to remove any diseased organ. The evaluation of results must be analyzed from the stand-

point of the disease for which it is undertaken. In a previous survey,[9] I reported on 105 sympathectomies and the causes for their failures. This second survey shows a better percentage of good results since the indications have been more strictly drawn and the technique has improved.

In Raynaud's disease, the sympathectomy should (1) heal ulcerated fingertips, (2) eliminate the severe spasms of the fingers, (3) stop the painful burning at the end of the attack. Of these three postulates, the first and third are readily fulfilled. But even the technically perfect sympathectomy undertaken in an early stage of the disease may not completely eliminate color-changes of the finger-tips, which, however, are very fleeting and do not terminate in burning pain. The fingertips which show these changes are the same ones which do not warm up after a diagnostic sympathetic block; they have organic vascular damage and their reaction to cold is exaggerated. Since such residual spasms only occur on exposure to cold, since they are fleeting and do not produce progressive structural damage, they do not detract from the value of the operation. While the feet and toes of patients suffering from Raynaud's disease may be also affected, I have not found it necessary to do lumbar sympathectomies for this disease. The overwhelming majority affects women on the upper extremities.

In Buerger's disease, the evaluation of results is equally difficult. The disease must be arrested before it is surgically attacked. Sympathectomy simply facilitates collateral circulation by preventing central or reflex vasoconstriction. It will not open thrombosed vessels nor will the sympathectomized limb be free of future thrombosis; but it markedly improves circulation in the diseased extremity. The best indication of this is the rise in oxygen-saturation of venous blood, which Hick and I reported.[10]

The results of sympathectomy in poliomyelitic children have been most gratifying. The paralyzed limb loses it painful cyanotic indurations and remains warm and dry. There is also another type of pain encountered in these limbs which is accompanied by vasodilation. This pain may be abolished by repeated sympathetic block or by sympathectomy. In one such patient, repeated procaine injections given paravertebrally relieved a persistent burning pain, which had been present for years. The interpretation of this effect will be given below.

Sympathetic block or sympathectomy has a striking effect in causalgic states, on which I have reported elsewhere in detail.[6] Such patients exhibit a continuous burning pain with segmental areas of vasodilation, which at first follow the course of sensory nerves but later become diffuse. This syndrome occurs after mild injuries or infections around the ankle or wrist, fingers or toes, where there is an opportunity for stretch or contusion of somatic nerve-fibers. If such a state is recognized early, local infiltration of procaine to the injured area may be sufficient to abort the syndrome. In a later stage the neuralgia spreads preximally toward the root of the limb and a decalcification of the small bones of the hand or foot becomes evident. Repeated block of the sympathetics often brings relief but if the pain returns, no time should be lost in performing a sympathectomy. There is, however, a terminal stage in which sympathetic block seems unable to control the pain and sympathectomy done in this stage is equally useless. In such a stage, the pain seems to have become central in origin and no peripheral nerve-section can control it. Possibly section of mesencephalic tracts may be the answer.

It seems peculiar that causalgic states, which are quite frequent in a minor form and are again appearing in the present war, should respond to sympathetic block since these syndromes are characterized by vasodilation and measurably increased bloodflow. Nevertheless, a study of oscillometric curves reveals that, in spite of increased pulsations of the affected limb, there is an increase in peripheral resistance. Sympathetic paralysis then relieves this capillary barrage and shunts the blood back to the veins through the small arteriovenous shunts, thus decreasing capillary pressure. The vasodilation itself seems to be the result of a continuous stimulation of the posterior root fibers.

In the miscellaneous group our results with sympathectomy as a preliminary operation for aneurysms have been worth while. Thus in a femoral aneurysm of a young boy, the ligation of the femoral artery above the profunda was easily tolerated in the previously sympathectomized limb. Three upper extremities were denervated, whose subclavian aneurysms underwent spontaneous thrombosis. A number of acute thromboses

and emboli in upper and lower extremities have been saved by early sympathetic blocks; these were followed in the younger age-group by a sympathectomy. Obviously, there are limitations of the benefit expected, depending on the time elapsed since the occlusion, the extent of the secondary thrombosis propagating distally and proximally, the cardiac reserve and the repetition of emboli to other parts. But as a preventative measure against impending gangrene, at least the procaine block should always be tried since it may save a limb even when it is least expected to do so.

Lately, there have been some favorable reports on sympathectomies done in patients suffering with arteriosclerosis when they exhibit vasospastic phenomena.[12] I have never been impressed with this type of indication, unless it could be shown that the atheromatous process itself is modified in its progress. As Atlas has pointed out, such patients may occasionally show a rapidly developing gangrene of toes following sympathectomy, perhaps because of the opening of arteriovenous shunts with insufficient head-pressure behind them. There are, of course, a group of presenile arteriosclerotics whose walking ability and skin-temperature can be increased by sympathetic paralysis. It is my feeling at present, that such a group is more suitable for an alcohol-block of the sympathetics, which will bring about the same results for four to six months, but which can be readily repeated. In elderly individuals with sudden closure of the popliteal artery or of a popliteal aneurysm, an alcohol-block of the sympathetics has proved limb-saving.

SUMMARY

The value of sympathectomy in a variety of peripheral vascular disorders is definite. The operation insures an even bloodflow to the denervated extremity because its vessels do not respond to central or reflex stimuli and all the available blood can serve to nourish the tissues. Selected cases of Raynaud's disease, Buergers' disease, poliomyelitis with vasospasm, causalgic states, acute emboli and thromboses, aneurysms and hyperhydrosis have been subjected to sympathectomy. The technique of sympathectomies for the upper and lower extremities is now developed to a point where permanent sympathetic denervation can be expected. These operations should now be regarded as being past the experimental stage and should play an important part in the treatment of peripheral circulatory disturbances.

122 South Michigan Avenue

BIBLIOGRAPHY

1. de Takats, G., Beck, Wm. C., and Roth, E.: The neuro-circulatory clinic; a summary of its activities (1) Peripheral vascular disease. Ann. Int. Med. 13:957, 1939.
2. Hunt, J. H.: The Raynaud phenomena: a critical review. Quart. J. of Med. 5:399, 1936.
3. Smithwick, R. H.: The problem of producing complete and lasting sympathetic denervation of the upper extremity by preganglionic section. Ann. Surg. 112:1085, 1940.
4. Theis, F. V. and Freeland, M. R.: Smoking and thromboangiitis obliterans. Ann. Surg. 113:411, 1941.
5. de Takats, G.: Heparin-tolerance: A test of the clotting mechanism. Surg., Gyn., and Obstr. 77:31, 1943.
6. Miller, D. S. and de Takats, G.: Posttraumatic dystrophy of the extremities. Sudeck's atrophy. Surg., Gyn. and Obstr. 75:558, 1942. de Takats, G. and Miller, D. S.: Posttraumatic dystrophy of the extremities; a chronic vasodilator mechanism. Arch. Surg. 46:469, 1943.
7. Lewis, Thomas: The nocifensor nerves. Clin. Science 2: 373, 1936.
8. de Takats, G. and Helfrich, L. S.: Sterility of the Male after Sympathectomy. J.A.M.A. 117:20, 1941.
10. de Takats, G.: Sympathectomy for peripheral vascular disease. Arch. Int. Med. 60:990, 1937.
11. de Takats, G., Hick, F. K. and Coulter, J. S.: Intermittent venous hyperemia in the treatment of peripheral vascular disease. J.A.M.A. 108:1951, 1937.
12. Freeman, N. E. and Montgomery, H.: Lumbar sympathectomy in the treatment of intermittent clauduation. Am. Heart Journ. 23:229, 1942. Atlas, L. N.: Lumbar sympathectomy in the treatment of selected cases of peripheral arteriosclerotic disease. Am. Heart Journ. 22:75, 1941. (2) Gangrene following operation in improperly selected cases. Am. Heart J. 23:493, 1942.

STUDIES ON THE PATHOLOGICAL PHYSIOLOGY OF BURNS*

H. NECHELES, M.D., Ph.D.

AND

WM. H. OLSON

Department of Gastro-Intestinal Research of Michael Reese Hospital

CHICAGO

Our interest in thermal trauma was aroused by the apparent lack of experimental work on the relation between burns and Curling's ulcer. With the advent of the war we have extended our work to various other phases of burns and, in collaboration with the Samuel Deutsch Serum Center have made observations on patients with

*Reported at the Joint Meeting of the Illinois Society of Pathologists and of the Illinois State Medical Society, Chicago, May 18, 1943.

This work was done under the auspices of the Committee on Research in Shock, of the Michael Reese Hospital, and was supported by the Michael Reese Research Foundation and by the Isaac and Kate Meyer Fund.

burns. The following is a short review of our results. For extensive discussion of the literature the reader is referred to the extensive monograph by Harkins.[1] All our work on animals was performed without causing any pain or suffering to the subjects.

There seems to be a difference between the type of burns inflicted by various means, like burns by open flames, by scalding, or by chemicals. There seems to be also a species-difference in the response to burns. In the human for instance, following second degree burns by open flame, the skin usually is edematus and forms blisters. In the dog blisters are formed more rarely and the edema of the skin and of the underlying structures is less evident. Scalding of the limb of a dog usually produces the appearance of a leathery contracted structure, while in the human swelling *and blisters are the usual consequence.*

Changes in respiration during and following experimental burns in the dog were quite different from those occurring following experimental traumatic, hemorrhagic, surgical, anesthetic or drug shock. During the latter conditions, respiration usually becomes shallow, except for transient episodes of air hunger following hemorrhage, which usually disappeared, when profound shock has developed.[2]

During and following burns, thoracic respiration became deep and forceful and was associated with simultaneous strong respiratory movements of the auxiliary respiratory musculature of the head and neck and of the abdominal wall. In addition, a strong tonic contraction of the abdominal musculature raised intra-abdominal pressure considerably. This labored respiration might continue for many hours.[3]

One of the most studied aspects of burns has been the chemistry and composition of the blood. An outstanding change following burns is the loss of circulating blood plasma, which shows itself in hemoconcentration and diminished plasma volume. In the human, but not in the dog, large amounts of plasma may be lost from the burned surfaces by weeping, blister formation, etc. In burns, some of the greatest hemoconcentrations ever observed in any kind of shock have been recorded by various authors. We have confirmed this in animals. Other typical changes, as observed in shock from other causes, occurred also following burns, namely, slow circulation and acidosis[4]. The slowed circulation, however, was not as pronounced as we found it following traumatic or posthemorrhagic shock. This may have been due to the effects of the burns on blood pressure. Following a burn, blood pressure was not depressed in most animals, and even was elevated above the pre-burn control level in a great number of experiments.[5,6] The same has been reported for the human by Wilson and assoc.[7] Following a burn, an animal might live with a more or less normal blood pressure for prolonged periods of time, although acidosis, hemoconcentration and slowed circulation were present, indicating a grave condition. For this reason, blood pressure is a poor index of the clinical condition and of the prognosis of a burned individual. We have found blood pressures near normal or above normal in a number of animals up to a few minutes before death. Then a precipitate fall of blood pressure occurred and the animal died with what appeared to be a sudden cardiac death. Such death might be precipitated by the drawing of small samples of blood.

Another outstanding observation seen in burns was hemoglobinemia, the degree of which depended apparently on the extent of the burn. Free hemoglobin has been found to occur in humans as well as in animals. The causative factor is unknown. Whether red cells are destroyed directly by the heat of the burn, or by toxic factors, or whether part or all of the free hemoglobin in the plasma is muscle hemoglobin, is not known as yet. Following a burn, the free hemoglobin disappeared from the plasma rather rapidly. This initial hemolysis occurred during the burn itself or shortly thereafter, because we have never found an increase of free hemoglobin or increased cell fragility following burns. On the contrary, we have observed that the resistance to hemolysis of the dog's blood increased during the first week following a burn. This may have been due to the increased formation of young cells, more resistant to hemolysis. A considerable degree of secondary anemia began to become apparent several days after a burn. This we have observed in man as well as in the dog. This anemia was progressive and we have found it advisable to administer transfusions of whole blood to burned patients at this stage.[8] French authors believe that this secondary anemia is due

to the absorption of toxic products from the decaying burned tissues, which damage or destroy red blood cells.[9]

The above mentioned maintenance of a more or less normal, or even of an increased blood pressure following burns is a striking phenomenon, which has been observed in man, dog, cat and rabbit, and we have tried to analyze which factors may be responsible for it. For brevity, we will call it the vasopressor effect of burns.

Simultaneously with the above described change in respiration during and following burns, a stiffening and an increase of tonus of the muscles of the limbs was observed.[3] It thus was conceivable that the mechanism of the vasopressor effect of burns consisted in an increased venous return to the heart due to increased muscle tone. In order to answer this question, dogs were injected with curare until stimulation of the distal end of the sciatic nerve did not produce a muscle twitch, and the animal was scalded. A rise of bloodpressure occurred, although not as high as in most control experiments without curare. These experiments indicated that, while the factor of muscle tone played a certain role, it could not entirely explain the vasopressor effect of burns.

Denervation of a leg of an animal abolished the vasopressor effect of burns of that leg and often, a drop of bloodpressure occurred.[5,6,10] It thus became apparent that we were dealing with a nervous or reflex factor, and our next step was to analyze the nature of such a reflex.

The reflex nature of the vasopressor effect of burns was also indicated by the following experiment. Stimulation of the central end of the cut sciatic nerve produced a rise of bloodpressure in anesthetized dogs and in cats before and after burns. It was thus apparent that, if for a period of time following a burn, a great number of impulses would travel up the sciatic nerve from the burned leg, a rise or the maintenance of a more or less normal level of bloodpressure in the severely burned animal could be expected. Attempts to record action currents from the sciatic nerve following burns were unsuccessful for technical reasons.

A reflex vasoconstriction of the splanchnic area can produce a considerable rise of bloodpressure. Therefore, in dogs, both splanchnic nerves were cut. Subsequent scalding produced a considerable and typical rise of bloodpressure. This ruled out the factor of splanchnic vasoconstriction.

In bilaterally adrenalectomized cats and dogs the more or less typical vasopressor effect of burns was present, except that the curve was slightly modified. This showed, that the adrenal medulla did not play an important role.

In splenectomized dogs, scalding was followed by a distinct and maintained rise of bloodpressure. This ruled out the role of reflex or humoral contraction of the spleen as a factor in the vasopressor effect of burns.

Next, our attention turned to the pituitary gland, because it is known to be able to liberate pressor hormone following reflex stimulation.[11,12] A burn produced in a completely hypophysectomized dog was followed by a precipitous drop of bloodpressure, as usually seen following traumatization.[5,6] We did not feel justified however, to assume that this response was due to the absence of the pituitary gland per se, because capillary tone and reactions might be altered by the absence of pituitary pressor hormone to such a degree, that we would not be dealing any more with the same biological object. In order to employ animals with intact hypophses, we used a biological test for the detection of pituitary pressor hormone in the blood.[12] The intravenous injection of small amounts of acetylcholine into a normal anesthetized animal is followed by a typical, transient, drop of bloodpressure. Small intravenous doses of pituitary pressor hormone, abolish this response completely for some time. Following burns, the response to intravenous injections of acetylcholine disappeared, thus apparently indicating the presence of increased amounts of pituitary pressor hormone in the blood. However, certain characteristic features of the acetylcholine response following burns were quite different from those in normal assay animals. In the latter, following injection of the pressor hormone, the response to acetylcholine disappeared immediately and gradually returned to the normal control response. Following burns however, the reverse was true, the response to acetylcholine disappeared slowly and in no experiment did it return at all. This may be interpreted as showing that we were not dealing with pituitary pressor hormone as the cause of the vasopressor effect of burns. It is con-

ceivable, however, that our acetylcholine-pituitary pressor-hormone test may be modified by a burn, possibly by the extensive hemolysis, and that the pituitary pressor hormone may yet play a role. More experiments will be necessary to elucidate this point.

The presence of a considerable degree of hemolysis in the blood of burned animals was a constant finding. In order to test the effect of hemolysis per se on bloodpressure, normal blood was hemolyzed in vitro by various physical agents like heat, distilled water, shaking etc., and was injected into anesthetized normal assay animals. A small but distinct increase of bloodpressure occurred.

The response of the bloodpressure of an assay animal to partly hemolyzed blood from a burned animal was the same or somewhat greater than that to normal hemolyzed blood. The vasopressor effect of hemolyzed blood was increased, when the bloodpressure of the assay animal was depressed by constant injection of acetylcholine or of eserine. These experiments showed that the factor of hemolysis played a certain role in the elevation or maintenance of bloodpressure following burns, but it was not of sufficient intensity to explain the entire vasopressor effect of burns.

Following burns in the dog, partial to complete suppression of kidney excretion was observed in all experiments, the degree of suppression depending apparently on the severity of the burn. This observation drew our attention to the possibility that renin might play a role in the vasopressor effect of burns, i.e. that increased amounts of renin might be produced by an ischemic kidney. Therefore, burn experiments were performed on anesthetized bilaterally nephrectomized dogs. A more or less typical rise of bloodpressure occurred. These experiments eliminated the possibility of renin playing any important role in the vasopressor effect of acute burns.

Cessation of kidney secretion was observed by us to occur already during the burn; it occurred so rapidly that we felt that at least part of it might be due to a reflex. It was felt, however, that part of it was due to the large amounts of free hemoglobin in the blood following a burn. We have also observed cessation of kidney secretion following experimental crushing injuries. Both phenomena have been described in man, and are naturally of great practical interest. We have therefore, devoted much time to find ways and means to activate the kidney secretion after it had ceased following a burn. Preliminary experiments make us feel confident that we will be able to develop a suitable method for this purpose.

The occurrence of gastric and duodenal ulcers following burns (Curling's ulcer) has been reported.[1] In order to analyze the effects of thermal trauma on the gastro-intestinal system, numerous experiments were performed on burned animals. As controls, normal and traumatized animals were used. Our results, in short, were as follows.[2,3] Following traumatization there was little or no change in the stimulated salivary, pancreatic, biliary and gastric secretions. Following burns, we found a considerable depression of stimulated salivary, pancreatic and biliary secretions. In the case of gastric secretion no change was found, except when saline or saline-glucose solutions had been administered intravenously following the burn. In the latter case a considerable increase in volume and acidity of gastric secretion occurred and, in a number of animals distinct ulcers and erosions were found in the stomach or duodenum. Gastro-intestinal motility following traumatization was either absent or small. Only when bloodpressure fell to low levels and when considerable anoxemia developed, the motility usually seen with anoxemia occurred. Following burns, an entirely different picture was observed. Gastric motility was extremely strong, particularly in the pyloric part of the stomach, where strong tonic and tetanic contractions occurred; these were sometimes of such a degree that invagination of the pyloric antrum over the duodenum occurred. Duodenal motility was increased and, in a few experiments, the gallbladder was seen to contract. It is felt that the large increase of gastric and particularly of pyloric motility, together with an increase of gastric secretion and acidity may lead to ulcer. Another contributory factor for ulcer formation may be the considerable increase of intra-abdominal pressure which was measured by balloons inserted between liver and diaphragm. We feel, therefore, that ulcers or erosions may develop immediately following a burn, although they may not become clinically evident until later. The increased gastric motility was not abolished by

section of the vagus or of the splanchnic nerves or of both. Injection of medium amounts of atropin abolished this phenomenon entirely. We feel that this is of practical importance because vomiting and other gastro-intestinal symptoms following burns are considered to be of ominous nature. The cessation of gastric motility following injections of atropin was rather complete, and subsequent burns did not elicit renewed motility. We feel, therefore, that the administration of atropin to cases of burns exhibiting gastro-intestinal symptoms may be of interest.

The abolition of gastric motility following burns by medium doses of atropin drew our attention to the possibility of the factor of acetylcholine. Acetylcholine, the chemical transmitter of the nervous impulses of the parasympathetic system, is destroyed very rapidly after it has been formed and after is has acted as neural transmitter to end organs. It was conceivable that the enzyme which destroys acetylcholine in the blood and in the tissues, acetylcholine esterase, could be either destroyed or depressed by the burn. Therefore, determinations of esterase in the serum of burned animals were performed at various phases of the burn[6]. Our results, in short, were that no change of the acetylcholine esterase occurred following burns. The possibility remained, however, that increased amounts of acetylcholine might be liberated following burns. This was opposed however, to our observations on either increased or at least maintained levels of blood pressure following burns. Acetylcholine is known to be largely a vaso-depressor agent, and therefore experiments in this direction were not carried out.

We have attempted to survey briefly our work on the pathological physiology of burns. We have not been able to review all of our experiments nor the entire field in this short a time. We feel, however, that certain practical applications of our work may be useful at the present time. The first one is the observation that the level of the bloodpressure in burned persons is a bad index of the condition of shock in which a patient may be, and as a matter of fact, may be extremely misleading to the clinician. Other observations like the clinical impression, the pulse, the amount of free hemoglobin in the blood, hemoconcentration, or plasma CO_2 levels, seem to be much better indices of the clinical condition of the patient. The use of atropin in persons with gastro-intestinal upsets, like vomiting, following burns seems to be indicated. Our experimental evidence for this recommendation seems to be satisfactory. In a case of a burned child, in which we were able to pass a stomach tube shortly after the burn, we obtained evidence of pyloro-spasm and gastric retention[13].

Concerning the treatment of the dehydration and of the loss of plasma volume and of plasma proteins following burns, our group has made clinical observations on two cases with 45 to 50 percent burns of the entire body surface[8]. In order to overcome the profound shock it was necessary to administer during the first 20 hours following the burn, infusions of serum which amounted to more than the total estimated plasma volumes and total amounts of circulating proteins of these persons before the burn. Following this experience, a modification of Harkins' surface formula[1] was developed. We suggest, in the treatment of extensive burns in adults, the *immediate* administration of 50 cc of serum (or 60 cc of plasma) for every percent of body surface burned. In addition, 20 to 30 cc for every percent should be administred during the first 24 hours and another 20 to 30 cc during the next 48 hours. Total administration during the *first 72 hours* therefore, should be *at least 100 to 110 ccm* for each percent of body surface burned. Crystalloid fluid should not be given during the first 24 hours. Fluids and a high protein diet by mouth should be given as soon as possible.

REFERENCES

1. Harkins, H. N., The Treatment of Burns. Charles C. Thomas, 1942.
2. Necheles, H., and Wm. H. Olson. A. J. Physiol. 1942: 136, 32.
3. Necheles, H., and Wm. H. Olson. Surgery, 1942: 11, 751.
4. Olson, Wm. H., H. Gutmann, S. O. Levinson and H. Necheles. War Medicine, 1941: 1, 830.
5. Olson, Wm. H., and H. Necheles. Proc. Am. Physiol. Soc. March 1942: 1.
6. Olson, Wm. H., and H. Necheles. Am. J. Physiol. 1943: 139, 574.
7. Wilson, W. C., A. R. McGregor, and C. P. Stewart. Brit. J. Surg. 1938: 25, 826.
8. Pressman, D., Martha Janota, R. E. Weston, S. O. Levinson, and H. Necheles. J.A.M.A. 1943: 122, 924.
9. Lambret, O., and J. Driessens. Rev. de Chir. 1937: 75, 319.
10. Crile, G. W. An experimental and clinical research into certain problems relating to surgical operations. J. B. Lippincott Co. 1901, p. 97.
11. Chang, H. C., K. F. Chia, C. H. Hsue and R. K. S. Lim. Chin. J. Physiol. 1937: 12, 309.
12. Necheles, H., and F. Neuwelt. A. J. Physiol. 1938: 124, 142.

13. Necheles, H., and S. O. Levinson. Exceptional and clinical experience with serum and plasma in the treatment of shock. Chapter 35, In Blood Substitutes and Blood Transfusions, Charles C. Thomas, 1942.

THE NEW "ILLINOIS MENTAL HEALTH ACT"

CONRAD SOMMER, M.D.
Deputy Director Department of Public Welfare
H. H. NIERENBERG, M.D.
Superintendent of Extra mural Care
Department of Public Welfare

The new "Illinois Mental Health Act, an act to revise the law in relation to the commitment, admission, detention and care of mentally ill persons"* and "to provide for the licensing and regulation of private institutions for the care of mentally ill persons" will become effective on January 1, 1944. A knowledge of the provisions of this Act is essential to all physicians as well as to the psychiatrist, because at some time or another most physicians are instrumental in routing patients to mental hospitals. Following are excerpts from the new Mental Health Act with some interpretations. A few regulations that are being issued by the Illinois State Department of Public Welfare for the carrying out of the new Act are also mentioned.

"The words 'mentally ill person' are construed to mean any person who by reason of unsoundness of mind is incapable of managing and caring for his own estate or is dangerous to himself or others if permitted to go at large, or is in such condition of mind or body as to be a fit subject for care or treatment in a hospital for mentally ill persons; provided that no person whose mental development was arrested by disease or physical injury occuring prior to the age of puberty, and no person who is afflicted with simple epilepsy, shall be regarded as mentally ill unless he is mentally ill as above defined. Nothing in this Act shall be construed to apply to an insane person, or a person supposed to be insane, who is in custody on a criminal charge." The new law, therefore, excludes the feeble minded, epileptics and criminally insane. However, should there be super-imposed on the epilepsy or feeble-mindedness, a mental illness, the patient falls within the jurisdiction of this law

*All quotations are taken from the "Illinois Mental Health Act."

The law provides for four methods of admission to mental hospitals, both to private and state maintained institutions. These four methods are:

1. On voluntary application
2. On consent by lack of protest
3. On court commitment
4. On temporary detention or emergency admission

By the procedure of voluntary application, "Any person of lawful age who may desire the benefit of treatment in a state or licensed private hospital or any institution for the care and treatment of the mentally ill, as a voluntary patient, may be admitted . . . on his own written application to the superintendent of the state or licensed private hospital." By this method the patient merely needs to apply to the mental hospital or institution to which he desires admission and fill out form No. 1 as prescribed by the Department of Public Welfare. In the case of a minor, Form No. 2 is filled out by his legal guardian. Both of these forms will be available at the individual hospitals. A person received at a mental hospital on voluntary application "shall have the right to leave at any time on giving ten days' notice to the Superintendent, and shall not be detained under such voluntary admission more than ten days from and inclusive of the date of notice in writing of his intention or desire to leave." "Upon admission to a hospital or institution for the mentally ill" on a voluntary application "the patient shall be informed, in simple non-technical language, of his rights of discharge as prescribed herein." The Superintendent is required to forward to the Department on form No. 1011, within ten days after admission of a voluntary patient, a record of such patient. Form No. 1011 is a statistical card.

The second type of admission is an innovation with this Act since there has heretofore been no comparable procedure. This type of admission is named "Admission on consent by lack of protest." "Any person with whom an alleged mentally ill person may reside or at whose home he may be, or the father or mother, husband or wife, brother or sister, or the child of any such person, or the nearest relative or friend available, or an officer or any well-recognized

charitable institution or agency or home, or any public welfare officer of the municipality or the Department of Public Welfare of the city or county in which any such person may be, may apply for admission of such person" by this method. This can be done if there is no demand for court action or protest against the procedure by the patient himself or by his relatives, friends or attorney. The method for admission on consent by lack of protest is as follows:

Any person mentioned above may file an application, known as Form No. 5, in which is contained "a statement of the facts upon which the allegation of mental illness is based, and because of which the application for treatment in a mental hospital is made." This form as well as the others needed can be secured at the offices of the county clerks throughout the state. The application must be accompanied by a physician's certificate, executed on Form No. 6. This must be dated not more than ten days before the date of admission. The certifying physician "shall not be a relative of the person applying for the admission or of the person alleged to be mentally ill, nor be a manager, trustee, superintendent, proprietor, officer, stockholder, nor have any pecuniary interest, directly or indirectly, nor be a resident physician in the institution to which it is proposed to admit such person, nor have any interest in the estate of the person to be admitted nor bear any relationship to him." The application and the physician's certificate will be examined by the county judge after reasonable notice has been given to the person alleged to be mentally ill and upon the nearest relative if such nearest relative has not filed the application or upon the person with whom the patient resided, or a friend. "The county judge shall (then) designate and appoint a competent, disinterested physician to examine and interview the patient. Such physician shall inform the patient in simple nontechnical language of his right to oppose and protest the procedure of confinement in the institution, and of his right to demand and obtain a trial before a court and before a jury." The patient's responses to such a statement must be embodied in this appointed physician's report as well as what the appointed physician said to the patient to bring forth such responses. This material will be presented to the County Judge on a certificate, Form No. 7, which will "embody the physician's conclusions concerning the mental illness of the patient and his need, if any, for care and treatment in an institution for the mentally ill." The judge will then, if he sees fit, approve these certificates and applications and the patient may be admitted to the mental hospital on presentation of these papers. This proceeding will not constitute an adjudication by the County Court, that the patient is mentally ill, thus avoiding a court commitment. Under this type of commitment, the patient retains the same rights as under voluntary type of admission, that is, he has the privilege of leaving after giving ten days notice to the superintendent, "nor shall any such person be detained whose mental condition becomes such that he cannot comprehend the nature of his commitment, or be able to request his discharge or give continuous assent to detention." Court commitment in this type of admission as well as in the voluntary admission can be resorted to if this is deemed advisable, should the above mentioned changes occur in the patient's mental condition. The Superintendent of the institution "shall discharge the patient if the medical examination in the institution indicates that the patient is at any time not a fit subject for care therein or if the patient has recovered from his mental illness." The report of such discharge shall be made to the Director of the Department of Public Welfare.

The new law contains specific directions for the court commitment of a mentally ill patient "upon an order made by a judge of the county court of the county in which he resides or in which he may otherwise be present." In this procedure, a notarized petition must be presented to the court and may be filed by any person listed as applicants for the admission on consent by lack of protest. Upon receiving these certificates and the petition, the court will notify the person alleged to be mentally ill and the nearest relative or friend if the nearest relative or friend has not filed a petition, that a hearing will be held to consider the case. Upon the demand of either the patient or another interested person, a trial by jury may be requested. Also, if the judge sees fit, he may appoint a commissioner to investigate the case for him. Under this procedure the court will enter an order adjudging the patient mentally ill and committing

him to the state mental hospital or to a private institution into the care and custody of relatives, with the relatives consent. The details involved in the Court Commitment need not be stated here, but are made explicit in the Act.

Under the fourth type of admission, temporary detention or emergency admission, a patient may be received in a mental hospital or in a municipal or county Institution, approved by the Director of the Department of Public Welfare, upon a "written statement and recommendation of any physician licensed to practice medicine in this state, provided that the said physician shall not be related by either blood or marriage to said person." This written statement and recommendation will be made on Form No. 13 and will need to be filed within ten days of its having been made. It "shall contain facts and circumstances upon which the recommendation is based and shall show, that the person is, in the physician's judgment, in immediate need of care in an institution for the mentally ill." Upon this physician's statement, "the person alleged to be mentally ill, may be temporarily detained for a period of time not exceeding fifteen days, pending a judicial investigation of his mental condition." Following the fifteen days, it will be necessary if continued detention is needed, to have the patient committed by one of the three other methods. The law provides that this method is to be used "when not to do so would endanger his own life or the life of others," and no other procedure is possible. Any place designated as either a permanent or temporary place for the reception, temporary care, or nursing for mentally ill patients, by the government body of any city, village, town, township or county, must be approved by the Department of Public Welfare. If there are no such approved placed in the vicinity, the state hospital will be used for temporary detention under this type of commitment. "A person temporarily detained under this section, shall not be received a second time on the basis of the same facts or on the certificate of the same physician."

In regard to the discharge of patients there have been several changes. The type of discharge known as parole under the old act, will now be known as conditional discharge and will be granted for a period not exceeding one year rather than the three months under the old regulations. This conditional discharge may be renewed. The law also provides for an absolute discharge which becomes effective when the Superintendent of a mental hospital files his certificate (Forms 15 or 15a) with the Department of Public Welfare.

In regard to private hospitals Section 21 of the law reads as follows: "No person, firm or partnership, association or corporation shall establish or maintain an institution, or special department within a general hospital, for the care, custody or treatment of mentally ill persons, for compensation or hire, without first obtaining a license therefor from the Department as herein provided." The departmental functions supervising the licensing and investigation of private institutions, has been delegated by the Department to the State Alienist at 912 South Wood Street, Chicago 12, Illinois.

There are various requirements and prescribed methods of application for licensing that may be obtained by writing to the State Alienist.

A section of the Act pertains to the restoration of rights which becomes a rather automatic procedure if the patient has a statement from the Superintendent of a mental hospital that he has been discharged as recovered or found to be without mental illness. In addition to this method, the Act provides for restoration of civil rights by adjudication by a county court. This involves a procedure similar to the Court Commitment. With the verified petition, there must be furnished certificates of two physicians, neither of whom shall be related to the patient by blood or marriage, in support of the petition for restoration of rights. This certificate is to be executed on Form No. 17.

The Act contains a section in regard to the transfer of patients which in effect protects the patient's interest and does away with the old methods of handling the patient in transit as if he were a criminal or felon. The Department encourages transportation of patients by their relatives. The Department of Public Welfare is given the authority to prescribe and publish rules and regulations relating to the general administration of the Act and to the transportation, custody, care, treatment and discharge of persons mentally ill.

The Act contains many devices which afford legal protection to the patient as well as those of persons or agencies caring for the mentally

ill and also to do away with some old ideas and stigmata attached to mental illness and crude methods of procedure which too closely simulated the procedures used in the treatment of felons, criminals, etc.

An attempt has been made to present excerpts from and interpret portions of the new Illinois Mental Health Act with emphasis placed upon the role of the practicing physician and psychiatrist in the admission and discharge of mentally ill patients. The forms have been designated although no effort has been made to fully explain or describe these forms since these will be readily available at the offices of the county clerks throughout the state. There has not been included in this presentation, matters relative to the keeping and placement of records, to some court procedures, to provisions for maintenance and treatment of veterans, to duties of the conservator or guardian, to letters by patients, to acquittal, to adaptation, to patients leaving hospitals without authorization, penalties, appeals, Habeas Corpus, and other similar matters. This is all contained within the Act itself, a copy of which can also be obtained from the county clerks.

The Department of Public Welfare will publish a manual for procedures under the Act which will be of interest to all persons concerned with the care and treatment of the mentally ill and will contain explanations for the uses of the many forms needed for the execution of the Illinois Mental Health Act. The manual will also be obtainable from the county clerk. Anyone desiring answers to questions arising in regard to this Act, may write directly to Dr. Conrad Sommer, Deputy Director, Department of Public Welfare, Mental Hygiene Service, 176 West Adams Street, Chicago, Illinois.

THE TREATMENT OF TETANUS

L. STERN

MOSCOW — U. S. S. R.

The failure of certain medicinal substances introduced into the general circulation as well as those formed in the organism as a result of the infection of the corresponding anti-toxins, may be explained by the presence of a hemato-encephalic barrage established by our year-long researches into the relations between the blood on one side and the spinal fluid and central nervous system (the cerebrum and the spinal cord) on the other. We have repeatedly voiced the thought that certain disturbances of the central nervous system remaining after an infection, as for instance, in lethargic encephalitis, were conditioned by a peculiar selectiveness of the haematoencephalitic barrage which in definite cases admits the pathogenetic agents but does not admit the respective anti-toxin toxins.

This may serve to explain the established fact that in tetanus the development of the pathological process itself may be averted by the action of a specific anti-tetanic serum, if the serum be injected during the incubation period, i.e. before the appearance of the first symptoms of tetanus, whereas, on the other hand, the injection of the serum in the majority of cases yields no medicinal effects in developed tetanus.

This gave rise to the thought that in cases of this kind it was indispensable, with a view to obtaining the desired effect, to abolish the obstacle (in the shape of the haematoencephalitic barrage), to the reaction of the substance in question on the nervous centres. With this end in view it is necessary to lower the resistance of the barrier to the passage of certain substances from the blood into the spinal cord.

Numerous investigations conducted to this end in the laboratories under our direction have shown it to be possible, by the action of a number of factors, physical, chemical, as well as biological, to increase the permeability of the hemato-encephalitic barrage in relation to a number of substances circulating in the blood, or introduced from without for therapeutic experimental purposes.

However, such a disturbance of the barrage may in a number of cases concurrently prove deleterious since, alongside of the requisite substances there may pass from the blood into the spinal cord certain substances which would be undesirable and harmful.

It would therefore in a number of cases be preferable to apply another method for the temporary removal of the obstacle in the shape of the barrage, namely that of directly introducing the medicinal substance into the spinal fluid, preferably into the ventricular spaces, i.e. the cavity of the brain ventricles.

In the clinic the suboccipital injection may be used for introducing the serum into the

spinal cord, on condition that certain rules be observed serving to hinder the reflux of the liquid into the subarachnoidal space (the operation requiring a definite direction of the needle and a definite pressure in injecting the liquid). The injection into the subdural or subarachnoidal space produces no effect because the substance introduced together with the liquid passes in the majority of cases into the blood without coming into contact with the nerve centres.

A series of experiments were conducted for the purpose of checking up these propositions (A. I. Yarmoshkevich). Tetanus was induced in animals (dogs) by that injection of the tetanic toxin following on which one group of dogs had anti-tetanic toxin injected in the usual way at different periods after the injection of the toxin, both before and after the appearance of the first symptoms of tetanus. Positive results were obtained in every case, when the serum was injected into the general circulation before the appearance of the tetanus symptoms, while on the injection of the same serum after the appearance of the symptoms, the animals perished. Another group of dogs had the anti-tetanic serum simultaneously injected into the spinal fluid as well, at different periods after the appearance of the first symptoms of tetanus.

The result of these experiments has shown that the injection of the anti-tetanic serum directly into the spinal cord interrupts the development of the process, the animal fully and speedily recovering. Such favorable results, however, are as a rule obtained only during the first twenty-four hours. A later application of this method of injecting the anti-tetanic serum frequently yielding less favorable results, although in the majority of cases the further progress of the pathologic progress is retarded. Complete recovery was not attained, the animals for the most part perishing, after a considerably more lengthy period.

Similar results were obtained in horses (N. G. Belenki).

These results have fully confirmed the proposition we have advanced. It is to be presumed that the absence of positive results from the injection of anti-tetanic serum in those cases when it was injected in later phases of tetanus, was most probably conditioned by the fact that the tetanus anti-toxin can only neutralise the toxin which has penetrated into the spinal liquid but cannot influence such lesions of the nervous elements as are produced by the action of the toxin. In other words the anti-toxin can avert the further effect of the toxin on the nervous centers proper, thereby suspending the further development of the process; if however the process has already to a certain extent developed and the lesions have assumed too great dimensions, positive effects from the injection of the anti-tetanic serum are hardly to be expected. These circumstances must be borne in mind in the attempts at the specific treatment of tetanus.

The results obtained in the laboratory in experimental tetanus have recently been confirmed in the clinic both in men and in horses. We were successful (E. S. Lockshin) by means of injecting anti-tetanic serum into the spinal cord by suboccipital injection, in saving a patient who had developed tetanus following on a wound. In this patient the tetanus was developing with unusual rapidity. At the moment of the injection of the serum the tetanus symptoms were strongly manifest. The patient had the serum injected into the blood and the spinal cord simultaneously. The further progress of tetanus was interrupted, the patient after a certain time recovering. Similar results were also obtained in a number of other cases where the same method was applied.

Several cases are described in the literature, where the anti-tetanic serum was injected directly into the spinal cord of a horse. The method has quite recently been successfully applied in a veterinary front-line hospital (N. G. Belenki) with horses afflicted with grave forms of tetanus. It proved possible by means of a suboccipital injection of anti-tetanic serum into the spinal cord to check the further progress of the process and fully to restore the animals to a normal state.

The confirmation by the clinic of the results received in experiment show that this method of direct action on the nerve centres is unsurpassed for the treatment of tetanus. The actual importance of the question and the interest presented by such a possibility of treating tetanus hardly require any further argument.

In every case where symptoms of tetanus are present the induction of the serum into the

spinal cord by suboccipital injection should be practised concurrently with the injection of the serum in the usual way, i.e. into the general circulation. Comparatively large quantities of the serum (from 10 to 20 cub. cent.) may be injected after a preliminary extraction of the requisite amount of spinal fluid. The operation may unreservedly be repeated several times if there is any fear of new quantities of the toxin penetrating from the blood into the spinal column. The concurrent induction of antitetanic serum into the blood is aimed at rendering innocuous the toxin circulating in the blood.

It is thus indispensable in the treatment of tetanus simultaneously with the induction of anti-tetanic serum by the usual method to apply the suboccipital puncture for injecting the serum directly into the spinal cord. In avoidance of enhanced intercranial pressure the spinal fluid has concurrently to be extracted to an amount corresponding to that of the serum injected (approximately from 15 to 20 cc.) In grave cases the injection of the anti-tetanic serum may be performed repeatedly.

TORSION OF THE SPERMATIC CORD WITH UNSUSPECTED TESTICULAR TUMOR

JOHN H. MOHARDT, M.D., F.A.C.S.
CHICAGO

Interest in the case reported here lies in the fact that in it, acute torsion of the spermatic cord attracted attention to the testicle which contained an unsuspected, symptomless malignant tumor.

Torsion of the spermatic cord is relatively common. The frequency with which this condition occurs would be more apparent if a correct diagnosis were made in all cases. Unfortunately many cases are diagnosed as acute epididymitis, orchitis, or strangulated hernia.

Torsion usually occurs in the spermatic cord in those cases in which the cord and testis have had an abnormal anatomic development in relation to the surrounding structures. A large tunica vaginalis attached high on the cord or abnormal attachment of the mesentery and vessels to the lower pole of the testicle may allow increased range of motion and permit torsion. Exercise and exertion are frequently the immediate cause, but many cases have been recorded in which the torsion occurred during rest or in sleep. In the case reported here the tumor was probably a factor in initiating the torsion.

Torsion occurs most commonly in the younger age groups; it is uncommon in infancy and rare in persons past middle life. In Scudder's [30] series of 32 cases, 75% were less than 24 years of age. Among 103 cases reviewed by Donovan,[11] only 13 were in children less than one year of age. In 1939 Kreutzman and Strauss[23] reviewed 450 cases taken from the literature and added one of their own. In 350 cases summarized by Abeshouse,[1] the condition was found to be bilateral in 24.

The onset of pain in the testicle is usually sudden; it is soon followed by swelling. Recurring attacks of pain in the testicle in a young boy without evidence of urethritis or urinary infection are frequently the result of torsion of the cord. Vomiting and a slight elevation of the temperature may or may not accompany the attack. The testicular mass is found high in the scrotum and the epididymis anterior or lateral to the testis rather than in the normal posteromedial position. The condition occurs with equal frequency on the right and left sides. Torsion may occur intravaginally or extravaginally. The tunica is filled with a more or less bloody fluid and the testis and epididymis are dark red to black in colour. The spermatic cord is thrombosed below the level of torsion and normal above. On section the testis has the appearance of a cut surface of liver.

Open operation affords the most satisfactory treatment in most cases. If the cord and the testis are found to be viable, it may be possible to untwist the cord and suture the cord and the testis to the scrotal wall so that torsion will not recur. If the testis and the cord are necrotic, orchidectomy is the treatment of choice. Some physicians prefer manual detorsion without opening the scrotum, but in most cases this is impossible and the time lost in making the attempt favors the onset of gangrene. In the recurring type of torsion, when the twist is not severe enough to cause necrosis and gangrene immediately, one may hope to preserve the testis. This is also true in acute cases if they are recognized as such and operation is performed immediately.

Tumors of the testicle have always interested the surgeon in spite of the fact that they are fairly uncommon, the incidence being one case in 1500 male hospital admissions.[22] Many cases have been reported in the literature and attempts at interpretation and classification of these neoplasms have led to active debate. In the classification of tumors of the testis there are those who maintain that, in addition to the obvious teratomatous group of tumors, a large proportion of tumors of the testis are purely homogeneous or single cell tumors derived from the cells of the spermatic tubules. Others[3, 4, 10, 14, 26, 28, 29] led by Ewing,[15, 16] maintain that practically all tumors of the testis are teratomatous in origin. Chevassu's[9] classification of testicular tumors, although formulated many years ago, appears to be the most useful. His classification included two main groups of testicular neoplasms, namely, the seminoma and the teratoma. These two groups form a characteristic histologic picture. In addition there is a group of adenocarcinomas of the testis in which no heterogeneous tissue is present to suggest a teratomatous origin and which definitely belong to the seminoma group.

Bell[4] in 1925 suggested that it is probable that these tumors represent teratoid tumors in which only one layer of the primitive blastodermic vesicle is present. In 1938 Leddy and Desjardines[23] demonstrated that seminomas were radiosensitive and teratomas radioresistant. In 1939 Cabot and Berkson[7, 8] showed that the prognosis in cases in which seminomas were present was better than those in which carcinomas were found. The histologic grading of testicular tumors, on the basis of 1 to 4, revealed in the work of Ferris [17] that all seminomas are graded 4, and all produce a homogeneous picture. On the other hand, teratoid tumors may contain carcinoma or sarcoma which may be of any of the four grades of malignancy. Teratomas portray a variegated histologic picture. To compare the prognosis of seminoma and teratoma of the testis on the basis of cellular differentiation alone, is impossible, as the two types of neoplasms are totally different.

The recent discovery that many of these tumors cause excretion of gonadotropic hormone in the urine similar to that found in the urine of pregnant women has aroused fresh interest in the subject. The interpretation of the various histologic pictures and the relationship of each of these to the presence of the gonadotropic hormone and the amount excreted in the urine is a phase of the subject receiving particular attention at the present time. However reports in the literature on this phase of the subject do not give adequate information for its clarification.

The hormone associated with tumors of the testis is a gonad stimulating hormone similar to, but not identical with, the anterior gonadotropic hormone.[21] Fluhmann and Hoffmann[18] have concluded that this gonadotropic hormone in the urine of patients who have tumors of the testis has the same properties as the hormone found in the urine of pregnant women.

The quantitative study of gonadotropic hormone in the urine in cases of testicular neoplasm can be of practical significance. The presence or absence of metastasis after removal of a testicular neoplasm could be judged by an excess of gonadotropic hormone in the urine. In cases in which an indeterminate testicular lesion was present, a neoplastic mass would be suggested rather than a non-neoplastic mass, in the presence of an excess of gonadotropic hormone in the urine.

From the clinical point of view, it is important to remember, as shown by Cabot and Berkson,[7, 8] that even in the presence of metastasis in association with testicular tumor, the ultimate outlook is not always hopeless. For that reason even though metastatic lesions are present when the patient is first examined, orchidectomy should usually be performed, and subsequently irradiation be employed extensively.

Although the effect of irradiation is less marked in the presence of teratoma in contrast with seminoma, it is helpful to employ this method when teratoma is present provided metastasis also exists. It was shown by Cabot and Berkson[24] that 50% of the patients who had seminoma without metastasis survived 10 years or more after operation, and surprisingly that 37.5% with metastasis at the time orchidectomy was performed survived for a similar length of time. The prognosis for all testicular tumors, other than seminoma, is somewhat less favorable the survival rate being 35% for 10 years after operation in the absence of metastasis and 10% for a similar period after operation in the presence of metastasis. These survival rates

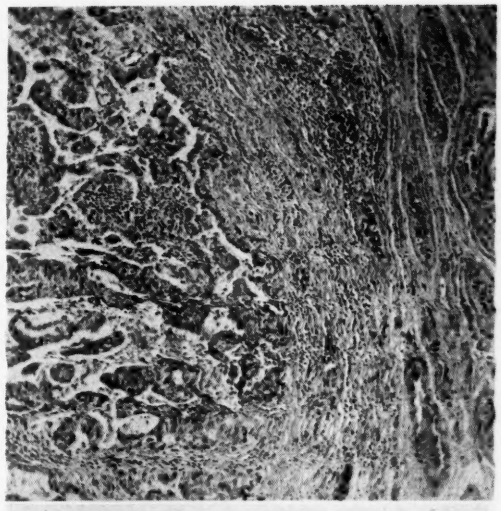
compare quite favorably with results obtained in the treatment of malignancy elsewhere in the body.

CONCLUSIONS

Tumor of the testis are rare and almost all of them are malignant. Two types of tumor, the seminoma and the teratoma, comprise almost all malignant tumors of the testis. All malignant tumors of the testis cause excretion of excessive amounts of gonadotropic hormone in the urine. Twenty rat units per liter of urine is the dividing point between normal and excessive amounts. The test must be quantitative and the best technic is that of Frank. The best routine on the first analysis is to test for 25, 40 and 66 rat units of hormone per liter of urine. The presence or absence of metastasis after removal of a testicular neoplasm could be determined by detecting an excess of gonadotropic hormone in the urine. In cases in which an indeterminate mass was present a non-neoplastic mass could be differentiated from a malignant neoplastic lesion by finding an increased amount of gonadotropic hormone in the urine.

It is advisable to remove the testis surgically in order to eradicate the primary neoplasm as well as to arrive at an accurate histopathologic diagnosis.

Following orchidectomy irradiation should be employed extensively even though metastatic lesions are present. Seminomas are radiosensitive; the effect of radiation less marked upon teratoma than upon seminoma; however, on the basis of survival rates it seems worthwhile to employ irradiation even when teratoma is present, provided metastasis exists.



REPORT OF A CASE

M. G., a male, 26 years of age stated that while he was sitting in an automobile he reached into the back seat for his hat and was immediately seized with a severe, excruciating pain in the right testicle. The patient had no previous history of testicular pain or swelling. He insisted emphatically that both testes were always similar in size, and that he had not observed any recent change in size before the onset of the present symptoms. There was no history of trauma or disease.

The pain was continuous and cramp-like and quite severe for the first 24 hours. Shortly after the onset of the pain the testicle felt swollen; it was about the size of a small orange the morning after the attack.

He consulted with a physician about 12 hours after the onset. The latter diagnosed the condition as an inflammation of the testicle, and advised bed rest, hot dressings and support for the testicles. Despite the treatment the pain continued and the testicle increased in size and in tenderness. This condition persisted for ten days. The temperature ranged between 99.2 F to 100 F daily from the beginning of the attack.

Examination of the testicle ten days after the onset of the attack revealed a swollen right testicle 7 x 8 cms. in size. It was exquisitely tender, firm on palpation and appeared to be under tension. No areas of fluctuation were noted. The testicle was opaque to transillumination. The spermatic cord was found to be swollen, thickened, firm and tender. The testicle appeared to be drawn toward the inguinal region. The lymph glands in the right inguinal region were shotty to palpation. There was no gross distortion of the normal anatomical pattern of these glands. The left

inguinal region was negative. The urethra, prostate and the seminal vesicles were normal.

Aspiration with a needle under local anesthesia yielded about 10cc. of dark clotted blood. A diagnosis of torsion of the testicle with hemorrhage, secondary infection, and necrosis was made.

Surgical exploration of the right testicle was performed Dec. 4, 1939, with the patient in the hospital under inhalation anesthesia. The surgical exploration revealed a swollen, inflamed spermatic cord with a testicle 7 x 5 — 5 x 4 cms. attached. The tunica albuginea was adherent to the tunica vaginalis in areas. The external layer of the testicle was for the most part smooth. On incising the tunica albuginia, dark clotted blood and necrotic debris escaped under pressure. Sections through the testicle revealed marked increase in size, and in its center friable, reddish and tan tissue was noted. Many cystlike spaces were noted.

The microscopic pathological report showed the specimen to consist of a testicle and epididymis incased in a tunica vaginalis to which spermatic cord is attached. The testicle measured 7 x 5 — 5 x 4 cms. The center of the testicle contains reddish tissue and tan tissue which is very friable and many cystlike spaces are noted. Microscopic diagnosis: rapidly growing, poorly differentiated adenocarcinoma, Grade 3, (Embryonal Carcinoma) with marked necrosis and hemorrhage into the tumor. Edema and fibrosis of the testicle with atrophy of the seminiferous tubules. Acute periorchitis, orchitis and epididymitis.

The x-ray examination of the chest was negative for metastases on admission to the hospital. A study for gonadotropic hormone was not made preoperatively as a tumor of the testicle was not suspected. The Friedman test was found to be negative for gonadotropic hormone in the urine six and twelve days postoperatively. The patient received a series of x-ray radiation treatments between Dec. 11, 1939 and Jan. 16, 1940 inclusive. The factors of the treatments were as follows: 800 K.V.; 10 Ma.; 1.0 mm. Pb., 1. 56 mm. Sn., 2.62 mm. Cu., 3.0 mm. Al.; 70 cm. F.S.D.; Field sizes 20 cm. x 20 cm.; 2500 r. units in 10 fractions to ant. right pelvis and right scrotum and 2500 r. units in 10 fractions to posterior right pelvis and right scrotum.

This patient is in good condition and working regularly at the present time. Three Friedman tests and three x-ray films of the chest at 3 month intervals have been negative. There is no clinical evidence of metastasis at the present time.

BIBLIOGRAPHY

1. Abeshouse, B. S. Torsion of the spermatic cord; report of three cases and review of the literature. Urol. & Cutan. Rev., 1936, xl, 699, Oct.
2. Allen, P. D. & Andrews, T. H. Torsion of the spermatic cord in infancy. Am. J. Dis. Child., 1940, lix, 136-142, Jan.
3. Bang, F., Hamburger, C., & Nielsen, J. Essai de classification des tumeurs du testicule base sur des recherches histologiques, normonales et cliniques-radiologiques: 28 cases. Bull. Assoc. franc. p. l'etude du cancer, 1935, xxiv, 418-466, June.
4. Bell, F. G. Tumours of the testicles; the spermatocytoma group. Brit. Surg., 1925, xiii, 282-301, Oct.
5. Broders, A. C. The grading of carcinoma. Minnesota Med., 1925, viii, 726-730, Dec.
6. Cabot, H. Modern Urology. Philadelphia: Lea and Febiger, 1936, vol. I, p. 429.
7. Cabot, H. & Berkson, J. Neoplasms of the testis: a study of the results of orchidectomy, with and without irradiation. New England J. Med., 1939, ccxx, 192-195, Feb. 2; Abstr. in Proc. Staff Meet. Mayo Clinic, 1939, xiv, 333-336, May 24.
8. Cabot, H. & Berkson, J. The outlook for patients with malignant tumors of the testis associated with massive metastasis. Proc. Staff Meet. Mayo Clinic, 1939, xiv, 377-380, June 14.
9. Chevassu, Maurice. Tumeurs du Testicule. Thesis, Paris, No. 193, 1906, 239 pp.
10. Deitermann, J. H. Zur Kenntnis des Seminoms, seines wesens und seines Krankheitsverlaufs. Frankfurt. Ztschr. f. Path., 1937, 1, 231-251.
11. Donovan, E. J. Torsion of the spermatic cord in infancy. Ann. Surg., 1930, xcii, 405-409, Sept.
12. Drips, D. G. Prolan determinations in gynecology. M. Woman's J., 1940, xlvii, 163-166, June.
13. Drips, D. G. & Osterberg, A. E. An evaluation of the Frank method for the determination of prolan (gonadotropic principle) in the urine of non-pregnant women. Endocrinology, 1938, xxiii, 703-710, Dec.
14. Eisendrath, D. N. & Rolnick, H. C. Text-Book of Urology. Philadelphia: J. B. Lippincott Co., 1928, 942 pp.
15. Ewing, James. Teratoma testis and its derivatives. Surg., Gynec. & Obst., 1911, xii, 230-261, March.
16. Ewing, James. Neoplastic Diseases, Ed. 3. Philadelphia: W. B. Saunders Co., 1928, pp. 839-842.
17. Ferris, D. O. Pathology of tumors of the testis: correlation with excretion of hormone in the urine. Proc. Staff Meet. Mayo Clinic, 1941, xvi, 615-621, Sept. 24.
18. Fluhmann, C. F. & Hoffmann, P. E. Gonad-stimulating hormone in urine of a patient with teratoma testis. Proc. Soc. Exp. Biol. & Med., 1934, xxxi, 1013-1014, May.
19. Frank, R. T., Salmon, U. J. & Friedman, R. Determination of luteinizing and follicle-stimulating principles in castrate and menopause urine. Proc. Soc. Exper. Biol. & Med., 1935, xxxii, 1666-1667, June.
20. Friedman, M. H. Mechanism of ovulation in the rabbit. Ovulation produced by the injection of urine from pregnant women. Am. J. Physiol., 1929, lxc, 617-622, Nov.
21. Hinman, Frank & Powell, T. O. The gonadotropic hormone in urine of men with tumor of the testis. J. Urol., 1935, xxxiv, 55-71, July.
22. Hinman, Frank. The principles and practice of urology. Philadelphia: W. B. Saunders Company, 1935, 762-784.
23. Howell, L. P. Excretion of gonadotropic principle in thyroid disease. Tr. Am. A. Study Goitre, 1940, pp. 157-159.
24. Lauder, M. S. Torsion of the testicle; with report of a case. Canad. M. A. J., 1939, xli, 140-142, Aug.
25. Leddy, E. T. & Desjardins, A. U. Radiotherapy for tumors of the testis. Radiology, 1938, xxxi, 293-298, Sept.
26. McDonald, J. R. & Broders, A. C. Seminoma and teratoma in the same testis; report of a case. Am. J. Clin. Path., 1941, ii, 138-143, Feb.
27. Ormond, J. K. Torsion of the testicle. J. A. M. A., 1938; cxi, 1910-1914, Nov. 19.
28. Schultz, O. T. & Eisendrath, D. N. The histogenesis of malignant tumors of the testicle. Arch. Surg., 1921, ii, 493-520, May.
29. Schlotthauer, C. F., McDonald, J. R. & Bollman, J. L. Testicular tumors in dogs. J. Urol., 1938, xl, 539-550, Oct.
30. Scudder, C. L. Strangulation of the testis by torsion of the cord. Ann. Surg., 1901, xxxiv, 234-248.
31. Twombly, A. H., Temple, H. M. & Dean, A. L. Clinical value of the Aschheim-Zondek test in the diagnosis if testicular tumors. J. A. M. A., 1942, cxviii, 106-110, Jan. 10.

32. Zondek. Die Schwangerschaftsdiagnose aus dem Harn durch nachweis des Hypophysenvorderlappenhormons; Gründlagen und Technik der Methode. Klin. Wchnschr., 1928, vii, 1404-1411, July 22.

33. Zondek, Bernhard. Maligne Hodentumoren und Hypophysenvorderlappenhormone. Klin. Wchnschr., 1932, ii, 274-279, Feb. 13.

ONE-SIDED SPINAL ANESTHESIA

DAVID L. MURPHY, M. D.
DIXON

It was my good fortune to hear Dr. Frank Lahey extol the virtues of this glucose fixed spinal anesthetic here in Chicago some four or five years ago, and later to see it used at the Lahey Clinic. So sold on it were we, that we tried it and found it very satisfactory indeed.

In extremity work, we observed that if the patient was kept on his side for several minutes that the fixation was almost one-sided. This observation was precipitated by a patient who had fractures of both patellas. The puncture was done on the right side. Glucose fixed spinal was used. The right patella was done first, easily and satisfactorily. Then the left patella was attempted, but could not be done because of no anesthesia on this side. The patient volunteered that the left side never went out, so he had to be anesthetized with gas to complete the left side. After he was awake and returned to bed, the right side was still anesthetized.

Exploiting this observation, we used the following technique for unilateral extremity surgery.

Patient is turned on injured side, his head is elevated on two pillows. The site is injected with a wheal of 1. cc of ephedrine and Procaine. The subarachnoid space is punctured between the 4th and 5th lumbar with a 22 gage needle and a free flow spinal fluid obtained, then, 1. cc of 1 percent solution of Pontocaine (10 mg.) which has been mixed with 3. cc of 10 percent Dextrose, is injected slowly in about 30 to 45 seconds. After removal of needle, hold patient in this position for 5 minutes by the clock, then turn him on his back to the operating position, still keeping his head on pillows. There will be little blood pressure change. The small dose of ephedrine keeps it at about a preoperative level. Motor fixation is usually absent on the uninjured extremity, though, there are some anesthetic paresthesias in this leg. This method has been very satisfactory in elderly patients who have had surgery for trochanters and necks of femurs.

Several months ago, we had the misfortune of having to remove and reinsert some pins in a fractured femur neck. The interval between returning the patient to the operating room was 3 hours and the original glucosed fixed spinal was still workable.

If procaine is used, then about 1. cc of 10 percent solution (100 milligrams) fixed with 3. cc of 10 percent Dextrose should produce satisfactory one-sided anesthesia.

In inguinal hernias we have found that it does not go high enough, so the usual technique is used and recommended.

We have had two failures of adequate one-sided fixation which we think are due to holding the patient on the side too long, and in too steep an elevation of the head of the table, also, using too little anesthetic agent.

We have had no distressing sequellae with these one-sided fixations as of collapse, or of post anesthetic headache.

CONCLUSIONS

1. This glucosed fixed unilateral type of spinal anesthesia is safe and satisfactory for the elderly patient.
2. Long anesthetic time permits adequate x-ray study in fractures.

Presented before the Joint Session of the Section on Surgery and Central States Society of Industrial Medicine and Surgery, Illinois State Medical Society; 103rd Annual Meeting, Chicago, May 18, 1943.

TUAMINE SULFATE

"Tuamine Sulfate" (2-Aminoheptane Sulfate, Lilly) is a sympathomimetic amine with strong vaso-constrictive action, developed in the Lilly Research Laboratories. Clinical investigations have confirmed the effectiveness of "Tuamine Sulfate" as a vasoconstrictor. The action of a 2 percent isotonic solution, compared with a like concentration of ephedrine sulfate, brought about much greater constriction and more pronounced ischemia. The appearance of the nasal mucosa approximated that following the application of a 1:1,000 solution of epinephrine. One percent "Tuamine Sulfate" was also found to exceed the effect of the ephedrine, while 0.5 percent was about equal in vasoconstrictor action.

"Tuamine Sulfate" is unique among vasoconstrictor drugs since it produces nontraumatic shrinkage of the nasal mucosa without undesirable systemic effects. The isotonic solutions are within the acid range of pH and are well tolerated even by abnormally sensitive membranes without altering the flow of nasal secretions.

Industrial Health

Committee On Industrial Health — Frederick W. Slobe, Chm., 2024 South Western Ave., Chicago, Frank P. Hammond, H. A. Vonachen, R. I. Barickman, C. O. Sappington, Milton H. Kronenberg.

POST-GRADUATE COURSE IN INDUSTRIAL MEDICINE AND HYGIENE

Presented under the auspices of the Committee on Industrial Health of Illinois State Medical Society and the Chicago Medical Society.

General Statement

Industry today demands the services of physicians who are familiar with available knowledge of potential health hazards. Particular attention is focused on the field of industrial health problems at this time by both employers and employees concerning the effects occupations may have on health.

In sponsoring this course the Committees on Industrial Health of the Illinois State Medical Society and the Chicago Medical Society are convinced that the present trend in the industrial health field makes it imperative that physicians with industrial contacts and those in private practice have a working knowledge of current problems in industry as they relate to medicine.

Physicians should be cognizant of the wide field of industrial medicine and hygiene, as they may be called upon to make recommendations in regard to protective measures for all occupational health hazards. It is only proper that physicians assume this responsibility.

All lectures scheduled will be held at the University of Illinois, College of Medicine, 1853 West Polk Street, Chicago. The course will be conducted principally by physicians in industrial medical practise.

All registrations must be received by December 27, as the class is limited to 40 physicians.

The fee for the course is $25, payable at the time of registration.

The length of the course will be twelve weeks, beginning January 4, 1944 and ending March 28, 1944.

Checks should accompany the registration blank and be made payable to the University of Illinois, College of Medicine, Chicago.

Address all inquiries for further information to:

Dr. Frederick W. Slobe
2024 South Western Avenue
Chicago, Illinois

PROGRAM

Evening Sessions
Session No. 1

Tuesday, January 4, 1944
7 P.M.

Address of Welcome:
Raymond B. Allen, M.D., Dean, College of Medicine, University of Illinois

Response:
Robert S. Berghoff, M.D., Vice President, Illinois State Medical Society and
Oscar Hawkinson, M.D., President, Chicago Medical Society

"HOW DOES THE INDUSTRIAL MEDICAL DEPARTMENT OPERATE"

Presiding: Edward Holmblad, M. D., Managing Director, American Association of Industrial Physicians and Surgeons

Lecturer: Joseph H. Chivers, M.D., Medical Director, Crane Company, Chicago

---

Directed by the University of Illinois, College of Medicine and the Division of Industrial Hygiene, Illinois State Department of Public Health.

Session No. 2
Tuesday, January 11, 1944
7 P.M.

"THE PNEUMOCONIOSES" — The Dusty Trades

Presiding: Will F. Lyon, M.D., Medical Director, International Harvester Company, Chicago

Lecturers: Milton H. Kronenberg, M.D., Division of Industrial Hygiene, Illinois State Health Department and
Adolph Hartung, M.D., Professor of Radiology, University of Illinois, College of Medicine

---

Session No. 3
Tuesday, January 18, 1944
7 P.M.

"INDUSTRIAL TOXICOLOGY AND POISONINGS"

Lead and the heavy metals

Presiding: Carl M. Peterson, M.D., Secretary, Council on Industrial Health, American Medical Association, Chicago

Lecturer: Robert A. Kehoe, M.D., Director, Kettering Laboratory of Applied Physiology, University of Cincinnati, College of Medicine

---

Session No. 4
Tuesday, January 25, 1944
7 P.M.

"INDUSTRIAL TOXICOLOGY AND POISONINGS" (cont.)

Fumes, gases and vapors

Presiding: Richard Bennett, M.D., Chief Surgeon, Carnegie-Illinois Steel Company, Chicago

Lecturer: James H. Sterner, M.D., Eastman Kodak Company, Rochester, N. Y.

Session No. 5
Tuesday, February 1, 1944
7 P.M.

"MEDICAL PROBLEMS IN INDUSTRY"

Presiding: Harold Earnhart, M.D., Medical Director, Swift and Company, Chicago

Lecturer: Robert W. Keeton, M.D., Professor of Medicine and Head of Department, University of Illinois, College of Medicine

Session No. 6
Tuesday, February 8, 1944
7 P.M.

"INDUSTRIAL DEMATOSES"

Presiding: Francis E. Senear, M.D., Professor of Dermatology and Head of Department, University of Illinois, College of Medicine

Lecturer: Louis Schwartz, M.D., Chief, Dermatoses Investigation Section, Division of Industrial Hygiene, National Institute of Health, Bethesda, Maryland

---

Session No. 7
Tuesday, February 15, 1944
7 P.M.

"INDUSTRIAL MEDICAL ASPECTS OF FATIGUE, NOISE, HUMIDITY, TEMPERATURE EXTREMES AND ABNORMAL PRESSURES"

Presiding: Wm. D. McNally, Coroners Chemist, Cook County, Chicago

Lecturer: George E. Wakerlin, M.D., Professor of Physiology and Head of Department, University of Illinois, College of Medicine

---

Session No. 8
Tuesday, February 22, 1944
7 P.M.

"PROTECTING THE PLACE OF EMPLOYMENT"

Presiding: Kenneth M. Morse, Industrial Hygiene Engineer, Illinois State Department of Public Health, Chicago

Lecturer: John J. Bloomfield, Senior Sanitary Engineer, Chief, States Relations Section, Division of Industrial Hygiene, National Institute of Health, Bethesda, Maryland

---

Session No. 9
Tuesday, February 29, 1944
7 P.M.

"ESSENTIALS IN EMERGENCY TREATMENT"

Presiding: R. J. DeMotte, M.D., Chief Surgeon, Pullman-Standard Car Manufacturing Company, Chicago

Lecturer: Frederick W. Slobe, M.D., Medical Director, Automatic Electric Company, Chicago

APPLICATION BLANK

UNIVERSITY OF ILLINOIS
College of Medicine
1853 West Polk Street, Chicago
Application for Admission
to
Post-Graduate Course
in
Industrial Medicine and Hygiene
January 4, 1944 — March 28, 1944

Date .....

I hereby apply for admission to the Post-Graduate Course in Industrial Medicine and Hygiene to be held from January 4, 1944 to March 28, 1944.

Name ..... Age ....

Home Address .....
Number and Street
.....
City

Office Address .....
Number and Street
.....
City

I am a: (Please check appropriate category)

.... Licensed physician but not engaged in industrial practice.

.... Licensed physician engaged in part-time industrial practice.

.... Licensed physician engaged in full-time industrial practice.

.... Other (If none of the above applies)

Medical School Attended: .....
.....
From ..... To .....
Degrees .....
Licensed to practice medicine in .....
State and year
.....
Present Industrial Affiliations: .....
.....
Present Hospital Affiliations: .....
.....
.....

Signature of Applicant
Accepted .....
Date .....

Session No. 10
Tuesday, March 7, 1944
7 P.M.

"THE INDUSTRIAL PHYSICIAN AND COMMUNITY HEALTH RELATIONSHIPS"

Presiding: Leroy Sloan, M.D., Chicago, Illinois

Lecturer: Harold A. Vonachen, M.D., Medical Director, Caterpillar Tractor Company, Peoria, Illinois

Session No. 11
Tuesday, March 14, 1944
7 P.M.

"MEDICO-LEGAL ASPECTS OF INDUSTRIAL MEDICAL PRACTICE"

Presiding: Frank P. Hammond, M.D., Secretary, Chicago Society of Industrial Medicine and Surgery

Lecturers: Clarence O. Sappington, M.D., Consulting Industrial Hygienist, Chicago, and
Mr. Frank Peregrine, Attorney, Chicago

Session No. 12
Tuesday, March 21, 1944

Field trip for registrants.

Name of plant to be visited and other arrangements to be announced by the Chairman of the course.

Session No. 13
Tuesday, March 28, 1944

Dinner (informal)

Toastmaster: Harold M. Camp, M.D., Secretary, Illinois State Medical Society

Address: "The Responsibility of the Physician in Industrial Practice".

Clarence D. Selby, Medical Consultant, General Motors Corporation, Detroit, Michigan

---

The opportunity offered by routine x-ray or fluoroscopic chest examinations of adult admissions to general hospitals as a source of tuberculosis case finding has not been fully utilized. In a recent survey in a New York hospital tuberculosis was found in approximately 4% of the patients. These cases would not otherwise have been detected. Of these 2.8% had reinfection disease and 0.6% had active or questionably active disease requiring hospitalization or close observation. William B. Childress, M.D. et al. Jour. Amer. Med. Assn., Aug. 14, 1943.

THE SCOPE OF MEDICAL SERVICE IN INDUSTRY

With Special Consideration of The Private Practitioner

C. O. Sappington, Dr. P.H.,
Industrial Health Consultant
CHICAGO

The keystone of industrial medical service is the pre-placement physical examination. The term indicates the time at which the examination is done and the object of it. Most all other activities are built around this examination and the results obtained. It becomes, therefore, of tremendous importance in indicating what other procedures are necessary.

The keynote of industrial medical service is prevention in the form of a health promotional campaign to keep employees well and on the job instead of merely curing them of injuries and diseases after absenteeism has occured, although it is conceded that the latter procedures will always be an essential part of the service. Industrialists, however, and employers in general are very much concerned about cutting down the amount of lost time and money resulting from injury and illness, and are therefore concerned that medical departments shall proceed along preventive lines.

Well-considered job placement, according to the capacities and limitations of the applicants and the job requirements, becomes one of the first steps in the program of preventive medicine in industry. The basis for selective placement is found in various elements in the history taken at the time of the preplacement examination (such as age, sex, color; previous illness, operations, injuries, pregnancies, menstrual and menopausal experiences; previous industrial experience); constitutional development; attitudes and appitudes; physical, X-ray and laboratory findings. In short, the worker is placed where he or she can be utilized best, with the least probability of injury, illness, or aggravation of previously existing tendencies of weaknesses.

The next portion of the superstructure of preventive medical service in industry follows as a natural sequence of the preplacement examination procedures and the findings, and is represented by the supervision, follow-up and referral of individuals for the correction of physical defects found at entrance to employment—these may be defective vision, enlarged and infected tonsils, carious teeth or pyorrhea, deformities of various kinds, poor posture, varicose veins, hernia, or peculiar mental attitudes, mentioned as examples.

The best present-day example of scientific placements, based upon physical examination findings at entrance to employment and also the correction of remedial defects, is found in the modern visual program in industry; here the visual requirements of various jobs, having been carefully determined, the workers whose visual performances conform to such requirements are thus allocated. An extensive industrial visual program has been found to be especially important where highly developed visual skills are necessary in certain types of jobs, and also where considerable responsibility is placed upon employees for the safety and lives of other persons.

Periodic re-examinations, a form of health audit, are done on an annual inventory basis, or more often in certain departments where there are known potential hazards—or because of age or certain constitutional tendencies which require a more frequent check. There is here presented another opportunity for the correction of poor health habits, of potentially injurious occupational exposures correctible physicial infirmities or psychological twists.

The dispensary service occupied mostly in rendering first aid to minor injuries and illnesses is another manifestation of the preventive program. Some experienced industrial physicians believe that it is possible to predict with fair accuracy the probable index of absenteeism, the percentage of labor turnover, and work instability, predicated upon the dispensary records of individual employees. In addition to this, opportunity is afforded to study the causes of minor injuries and illnesses (in investigations with reference to working conditions) thus providing a basis for the control of causative factors, assisting in the avoidance of recurrences, and supplying the foundation for accident prevention and personal hygiene recommendations.

Health and safety educational procedures follow as a natural additional step, not only on the minor experiences as indicated, but in the more severe instances. Since ailments of nonindustrial kinds are the most costly and most potent causes of absenteeism, health information becomes a vital factor in securing the interest

and cooperation of the employees, in an effort to safeguard their greatest personal asset—sound health and a safe existence. The media by which information is conveyed are well-known to most persons, including scheduled talks, posters, columns in plant papers, motion pictures, sound slide films, and various methods which have eye and ear appeal.

Industrial feeding and the nutrition programs, at least in their supervisory aspects, provide another basis for health education—appropriate methods of appetite appeal in booklets, posters, menus, exhibits, and food in cafeterias and lunchrooms, scientifically chosen and prepared, as well as popularly priced, eventually produce good results.

The control of the working environment represents one of most important elements in the prevention program—having a great deal to do with the comfort, health and safety of employed groups. Freedom from harmful dusts, gases, fumes, and vapors, through the use of special exhaust ventilation systems or personal protective equipment; protection against injury by guards, safe habits, personal protective devices; adequate general ventilation and lighting; well arranged seating; convenient and well-maintained toilets and washing facilities; and good plant housekeeping, are some of the environmental factors that have a favorable influence on the efficiency, health and stability of industrial workers.

On the borderline between preventive and curative measures, lie what are called case-finding programs, applying more especially to tuberculosis, venereal disease, heart disease, and the like. Although not the primary responsibility of the industrial medical department, these maladies produce great losses of time and money to employees and employers and therefore present an important economic problem. In case-finding methods, the diagnostic services of industrial medical departments render an invaluable service to employees, private physicians, and community agencies, through the early recognition of incipient disease or moderately advanced conditions; prompt referral of cases to private practitioners —when treatment can be most effective and rehabilitation less costly in money and time. These measures result in the more rapid return of workers to industry and the community, as self-supporting citizens.

The curative measures which are patently the responsibility of industry are represented by the medical and surgical care of injuries and occupational diseases, including provisions for an emergency service. All states, except one, have legal requirements detailing the liability of employers for disability arising from industrial injuries, and about half of the states have similiar provisions with respect to occupational diseases. In connection with the curative procedures usually practiced in industrial groups, many establishments, even among the smaller groups, have found it advisable to use some of the more generally-known methods of diagnosis and treatment, including X-ray films, certain laboratory tests, and physical therapy apparatus. Connections are actively maintained also with hospitals for such cases as need hospital care, with various city and county clinics, and other community agencies which have been found to be of great supplementary help. Visiting nursing services have also been used to considerable advantage, especially with reference to checking up on the progress of illness or injury recovery, and otherwise assisting in keeping contact with absentees, without "policing" employees.

The private practitioner in general practice and in the specialities can be of considerable assistance in the program of medical service in industry in several ways: by discussing and reporting upon referre cases periodically; by making regularly scheduled visits to industrial plants, at which time the physician can see various cases, hold consultations, as well as investigate accidents and illnesses in the making of periodic inspections throughout the plant. The number of part-time physicians serving industries greatly exceeds the number of full-time physicians in similiar capacity, and will continue probably to show a greater excess, especially for the duration of the war.

In conclusion, industry presents an unusual opportunity for private practitioners, both in general practice and the specialties, to assist industry in keeping up the medical service program, conducting these activities either at their own private offices (which will help a great deal) or making regularly scheduled trips to plant dispensaries (which is much the best method).

SUGGESTED ACTIVITIES OF COUNTY INDUSTRIAL HEALTH COMMITTEES*

1. To sponsor programs for county medical society meetings devoted to phases of industrial health. (On request, the state committee will suggest competent speakers for such programs.)

2. To be prepared to offer suggestions and advice to local managements as to the soundness of their medical programs in the light of accepted standards of industrial medical practice.

3. To encourage physicians to study health hazards, health conditions, and working environments by personal visits to industrial plants so they will be prepared to advise both management and employees on preventive programs and procedures.

4. To advise physicians and managements of the legal responsiblities and limitations involved in the activities of nurses and lay personnel and to advocate procedures which will protect all those who participate in the medical program of an industry.

5. To encourage physicians to submit complete reports, based on accurate records, on industrial medical services and to transmit promptly reports which may be required by the State Industrial Commission and the State Department of Health.

6. To cooperate with the Committee on Industrial Health of the Illinois State Medical Society in the promotion of post-graduate and refresher education for physicians in industrial health and industrial medicine and in the distribution of education material.

7. To assist the War Participation Committee of the local medical society, the War Participation Committee of the state society and the Procurement and Assignment Service for Physicians in meeting the medical personnel problems of the industrial community.

8. To cooperate with other professional organizations, with official and non-official agencies, with civic and educational organizations, with managements and with labor groups, individually or on a joint committee basis, in the maintenance or development of appropriate community programs of treatment, rehabilitations, prevention or education which affect the industrial population. (Specifically, there should be cooperation with the following groups, for example: local societies of dentists and nurses, health commissioners and their staffs, voluntary health organizations and those interested in specific fields such as tuberculosis, venereal diseases, etc., luncheon clubs, women's organizations, groups interested in nutrition, local manufacturers' organization or chamber of commerce labor organizations, Red Cross, local Council on Civilian Defense, and other civic organizations.)

The personnel and facilities of various agencies, such as the Council on Industrial Health of the American Medical Association and the Division of Industrial Hygiene of the State Department of Public Health, should be utilized on technical matters and for consultation. The integration of the work of the practicing physician with that of official and nonofficial agencies which are qualified and prepared to make worthy contributions is not only desirable but necessary.

Obviously, to be assured of success, the program of the local committee should be such as to win the cooperation of labor, management and the citizens of the community generally.

The support of the worker can be secured if he can be shown that an adequate health service at his plant will produce conditions that enable him to work with a minimum of lost time due to illness or injury and consequently with greater profit for himself and his family.

In conferences with the employer, emphasis should be placed on the fact that "health security" for employees will benefit him in the form of less labor turnover, less absenteeism from injury and illness whether industrial or non-industrial, reduced compensation costs, and happier and more efficient workmen.

From the standpoint of the community at large, no argument can be more telling than the one that an industrial health program can help to minimize unemployment, alleviate suffering and distress, and promote mutual good will and cooperation between employers and employees.

*Adapted from an outline prepared by the Committee on Industrial Health, Ohio State Medical Society.

We speak of educating our children. Do we know that our children also educate us? — Mrs. Sigourney.

News of the State

PERSONALS · COMING EVENTS · MARRIAGES · DEATHS

Blue ribbons for pictures of special merit were awarded to 14 entrants in the Field Museum's First International Photographic Exhibit which opened September 15th. Altogther, 152 photographs, out of nearly 400 submitted, all bearing on various phases of nature were shown. Dr. Max Thorek of Chicago was one of the blue ribbon winners.

R.M. Strong, Ph.D., professor of microscopic anatomy and Chairman of the Department of Anatomy, and Thesle T. Job, Ph.D., professor of gross anatomy at Loyola University School of Medicine, Chicago, were guests of honor at a banquet Sunday evening, October 31, at the Medinah Athletic Club. Both men have completed twenty-five years of continuous teaching service at the Medical School.

Basil C.H. Harvey, Ph., M.B., Dean of Students at the Medical School of the University of Chicago, Leslie B. Arey, Sc.D., Ph.D., Professor of Anatomy at Northwestern University Medical School, and Raymond B. Allen, Ph.D., M.D., Dean of the Medical School of the University of Illinois spoke in appreciation of the long and distinguished service of Drs. Strong and Job.

Other speakers included Theodore E. Boyd, Ph.D., of Loyola University School of Medicine, the Reverend Edward F. Maher, S. J., Regent of Loyola Medical School, and Reverend Joseph M. Egan, S. J., President of Loyola University.

The banquet was sponsored by the Sophomore Class of the Loyola Medical School.

The Central States Society of Industrial Medicine and Surgery held an all day scientific meeting in Chicago on December 3rd.

Doctors J. A. Brown and Fred C. Hamilton, members of the Kankakee County Medical Society, were honored at a dinner given in Kankakee on November 9th. City officials and civic leaders attended the meeting at which time the 50 year button and certificate were conferred by the Illinois State Medical Society upon these two doctors who have just completed fifty years in the practice of medicine.

Dr. Louis J. Tint of Chicago showed his colored movies on "The Spirit of the Grand Canyon."

A dinner meeting of the Macoupin County Doctors was held at the Evangelical Hall, Carlinville, at 6:45 p. m. on Tuesday, November 23rd, 1943.

Dr. Herbert B. Henkel of Springfield, Illinois, was the speaker, his topic of discussion being "Symptoms and Diagnosis of Common Urologic Conditions."

MARRIAGES

CHARLES M. DRUECK JR., Chicago, to Miss Alice Lucile Finch of Iroquois, Ill., September 11.

WARREN FRANCIS SMITH, Oak Park, Ill., to Miss Barbara O'Malley of Chicago recently.

HERMAN GLADSTONE, Chicago, to Miss Madge Willstatter of New York, October 17.

DEATHS

HENRY W. CASE, Chicago; Hahnemann Medical College and Hospital, 1891. Had practiced medicine on Chicago's south side for 52 years. Died in November, 1943 at the age of 79 years.

OSCAR LEE HANSEN, Chicago; Rush Medical College, Chicago, 1897; served during World War I; died in the Veterans Administration Facility, Downey, Ill.,

September 19, aged 73, of chronic myocarditis and arteriosclerosis.

STEPHEN A. HEMMI, Chicago; Rush Medical College, 1894. Had received a 50-year pin from the Illinois State Medical Society. Died in October, 1943 at the age of 85 years.

C. C. HILL, Galesburg; Keokuk Medical College, College of Physicians and Surgeons, Keokuk, 1901. Had practiced in Manito for many years. Died October 18, 1943 at the age of 67.

CHARLES F. ISAACS, Chicago; Northwestern University Medical School, 1904. Died October 27, 1943 at the age of 66.

THOURSTON G. JORGENSON, Chicago; Chicago Medical School, 1922. Was a native of Sweden; practiced on Chicago's south side for many years. Died November 6, 1943 at the age of 53.

ALBERT B. MCQUILLAN, East St. Louis; Washington University School of Medicine, 1903. President of St. Clair County Medical Society; fellow of the American College of Surgeons since 1916. Died of heart ailment November 12, 1943 at the age of 63.

NELVIN M. MOORE, Rock Island; Rush Medical College, 1895. Had practiced medicine in Rock Island since 1900. Died suddenly of a heart attack October 24, 1943 at the age of 74.

OSCAR BURTON ORMSBY, Murphysboro; St. Louis College of Physicians and Surgeons, St. Louis, 1897. Died October 24, 1943, following a stroke, on his 67th birthday.

DOUGLAS A. PAYNE, Chicago; College of Physicians and Surgeons, Baltimore, 1887. Practiced medicine in Chicago for nearly 60 years. Died November 24, 1943 at the age of 92 years.

GEORGE FRANCIS SCHEIB, Champaign; University of Illinois College of Medicine, 1899. Eye, ear, nose and throat specialist in Champaign since 1915. Had been ill for many months. Died November 2, 1943 at the age of 76.

MATTHEW T. SMITH, Chicago; Loyola University School of Medicine, 1924. Associate professor of surgery at Loyola University. Died of a heart ailment November 9, 1943 at the age of 46.

CONSTANTINE THEODORE, Chicago; National University of Athens, 1902. Was county jail physician for the last 28 years. Died probably of a heart attack November 24, 1943 at the age of 64.

DAVID ORVAL THOMPSON, Sycamore; Chicago Medical School, 1923. Had practiced in Sycamore for 30 years. Died suddenly of a heart attack November 6, 1943, at the age of 60.

WILBUR ANDREW UEHREN, Aurora; Rush Medical College, 1901. At one time was health commissioner of Aurora. Died of a heart ailment November 20, 1943 at the age of 65.

FRANK F. WAGONER, Chicago; Rush Medical College, 1925. Died apparently of poisoning November 3, 1943 at the age of 48 years.

P. R. N.

The Jocular Jingles of C. G. F.

by

Charles G. Farnum M. D.

Peoria, Ill.

P.
R.N.,
Professor
Paresis and
Sophistes the
Seer extend most
cordial greeting to
each of you. In a war-
torn world with grief,
tragedy, suffering and sac-
rifice stretching throughout
its length and breadth we
would again greet you with the
beloved, albeit for the time for-
gotten salutation, "Peace on Earth,
Good Will to Men." And it is to be
remembered that it is the renunciation
of the principle behind that salutation that
has cast our world into chaos. May it be
given to you and yours to be spared in all possible
measure the grief and sadness that comes from war.
May
your
house
hold
be an
island of peace
in this ocean of strife.

SEASONABLE SONNETS

DECEMBER

December with its shorter, colder days
Reminds us of our post-meridian life:
Yet long and peaceful eves by firelight blaze
Affords surcease from hours of work and strife.
The juncos, sparrows, red birds, chickadees
Right merrily accept what winter sends,
While we, protesting bleak and nipping breeze,
Already long for days when winter ends.
With joy and song we hail the Christmas time,
The sweetest of illusions to remain,
For one brief space we rise to heights sublime,
Then promptly drop in former ruts again.
Hope must defeat experience, I fear,
To give one courage for another year.

P. R. N. — (Continued)

SOPHISTES, THE SEER, PONDERETH THE ENDING OF THE YEAR

The passing of the seasons bringeth us to the ending of another twelve-month, whereby there hath been added that much of labour and accomplishment to our already goodly store and by that same token there hath been subtracted an equal span from the days that we shall labour.

And one meditateth deeply on the ways of the healing art and he wondereth what manner of thing it becometh in the future. What with transgressions by the state and trespassings by this and by that selfish and untutored group from without he faceth the question of whither it goest.

He considereth the horde of remedial measures that cometh with virgin newness and great acclaim from those who manufacture or suggest them and which for a time loom large on the horizon of healing and then a goodly part sink into oblivion and he wondereth which of this year's crop thereof will survive the crucible of usage. Likewise he thinketh of the many ancient methods from hoary antiquity that persist despite their uselessness and which long ago should have been swept away by the river of time and cast into the ocean of memory. Yet withal the level of the healing art riseth year by year despite the evils that beset it and much hath been hewn from the mountains of ignorance, albeit the mountains still remain.

And then one meditateth upon the stream of human wreckage that cometh daily and upon the mystery of life, decadence and death. Upon the unconquerable desire to live when life hath long since ceased to give aught but tribulation and mockery. Upon transcendent hope that outweigheth experience and reason. Upon the abysmal ignorance that carrieth the individual inexorably onward to annihilation. Upon the limitless credulity of the human that leadeth him into the snares of charlatanism and quackery. Upon the numberless cults foundationed upon ignorance and veneered with religion, albeit the veneering is very thin and hath many cracks therein. Upon the healers and their methods, purporting to offer something new but possessing only the ancient tricks badly disguised. Upon gratitude and the absence thereof whereby the man of healing becometh elevated to a place among the gods or is consigned to a place among devils — ofttimes each being wrong and are but the viewpoint of myopic intellects. Upon the numberless times that our advice, directions, explanations, arguments, preachments, diatribes and pleading avail nought. Yea, verily, it requireth a stout heart to carry on and become not morbid and that discouragement shall not interrupt the continuity of our labours.

Oft cometh before us the ancient enigma of why one who seemeth so necessary be taken and one so wholly without worth be spared, or why our efforts to save shall be rewarded when the object thereof is not worthy of the saving. Ofttimes it seemeth that the survival of the unfit prepondereth.

Verily the rules of life and death are cryptic, insoluble and inpenetrable.

And then one contemplateth the fortitude of women to whom naught of anguish or denial mattereth so long as they can survive and minister to their beloved and who murmur not; the unheralded bravery of men who look Death squarely in the eye and accept the bludgeonings of Fate and who whimper not nor turn back; the confidence and patience of children whose adaptability to suffering seemeth as natural as to pleasure and to whom happiness cometh from trifles and our heart waxeth warm for the countless unsung heroes who fight bravely and sturdily on when only defeat awaiteth.

Verily life then becometh worth the while and the scant amount that one doeth or can do becometh all too small, yet it engendereth in our soul much of peace and satisfaction and transformeth living into a thing of boundless joy.

Thus saith Sophistes, the Seer.

COST OF "LYOVAC" BLOOD PLASMA REDUCED AGAIN

Sharp & Dohme announced on November 1 another price reduction in the cost of "Lyovac" Normal Human Plasma for civilian medical practice. When the product was first made available in 1941 it carried a list price of $44.80, and this was reduced to $37.50 in 1942. The present reduction brings the list price to $33.00, subject to the company's usual schedule of discounts.

Heavily increased production due to wider and greater use of this dried blood plasma has resulted in lowered production costs which are being passed along to distributors and ultimate users. It is the company's policy to supply this life-saving product at a low cost in order to make it economically available to as many persons as possible.

Dried blood plasma is a development of Sharp & Dohme research covering a period of over twelve years. Prior to Pearl Harbor the company was the only processor of dried blood plasma for the Army and Navy, and, because the company's processes and experience were made available to other manufacturers for the purpose of processing dried plasma for our military forces, this fact received special recognition when the Army-Navy "E" was awarded to Sharp & Dohme.

Of the tuberculosis found among men examined at the U. S. Induction Center in Massachusetts, 10% were far advanced, 25% were moderately advanced and 65% early cases. This exactly reverses the usual percentages among cases admitted to sanatoria of whom 65% are far advanced, 25% moderately advanced, 10% early. David Zachs, M.D., Mass. Tb. League News Bull., April, 1943.

announcing

A NEW TECHNIQUE OF LOCAL CHEMOTHERAPY
IN ORAL AND PHARYNGEAL INFECTIONS

Recent reports* indicate the clinical value of the sulfonamide compounds as topical medication in oral and pharyngeal infections.

For such conditions White's Sulfathiazole Gum now provides a more effective, prolonged, convenient and pleasant method of local chemotherapy than short-acting gargles, sprays and dusting powders.

Dosage

One (or two) tablets of White's Sulfathiazole Gum, chewed for one-half to one hour at intervals of one to four hours. Each tablet, containing 3.75 grs. (0.25 Gm.) Sulfathiazole, initiates and maintains an average of 70 mgm. per 100 cc. of saliva throughout the chewing period.

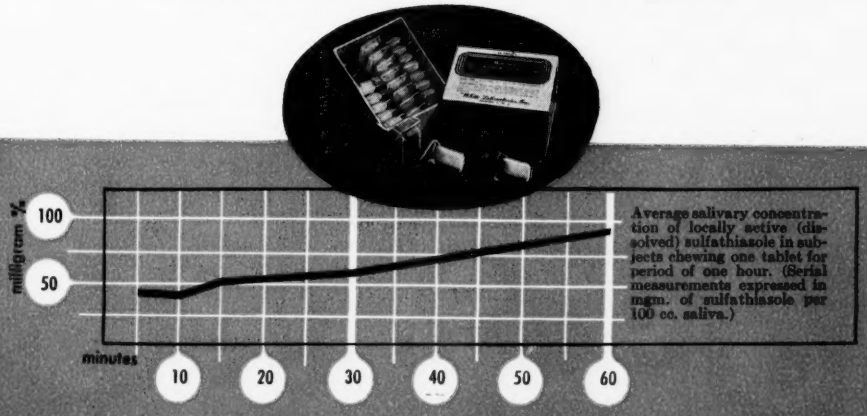
Indications

In the *local* treatment of acute and chronic sulfonamide-susceptible infections of oral and pharyngeal mucosa and contiguous tissues; e. g., tonsillitis, pharyngitis, infections, gingivitis and stomatitis, non-epidemic parotitis, peritonsillar abscess; also as prophylaxis in the post-tonsillectomy state.

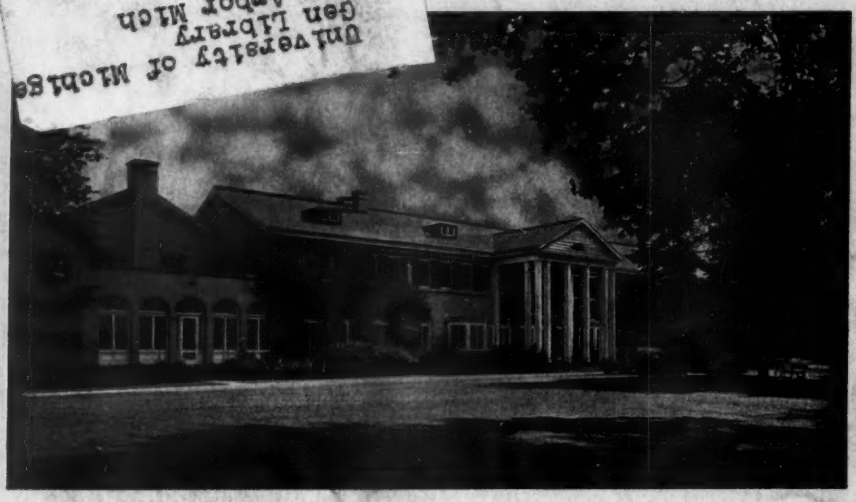
Supplied in packages of 24 tablets on prescription only. White Laboratories, Inc., Pharmaceutical Manufacturers, Newark 7, N. J.

*Literature on request

White's sulfathiazole gum



University of Michigan
Gen Library
Ann Arbor Mich
Sub 1-44



COLONIAL HALL
One of the 14 Units in "Cottage Plan"

FOR NERVOUS DISORDERS

MAINTAINING the highest standards for more than a half century, the Milwaukee Sanitarium stands for all that is best in the care and treatment of nervous disorders. Photographs and particulars sent on request.

Lloyd H. Ziegler, M. D.
Josef A. Kindwall, M. D.
William T. Kradwell, M. D.
Merle Q. Howard, M. D.
Carroll W. Osgood, M. D.
Arthur J. Patek, M. D.

✦

G. H. Schroeder,
Business Manager

MILWAUKEE SANITARIUM

WAUWATOSA — WISCONSIN

PHYSICIAN'S CHICAGO OFFICE — 1117 Marshall Field Annex — Wednesdays, 1 - 3 P. M. — Central 1167